Athlete Perceptions of the Impacts of Adapted Performance Profiling Procedures in an Applied Sports Setting

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Abstract:

The Traditional performance profile (Butler & Hardy, 1992) has been endorsed by athletes and consultants as an effective tool in enhancing the delivery of sport psychology training with its ability to increase self-awareness, motivate athletes to improve and as a basis for goal setting. Variations to the Traditional profiling procedure have been developed and employed within applied settings, but have received limited evaluation as to their usefulness and impact. Further, no research has examined performance profiling in regard to its impact on adherence to, or intended participation to a sport psychological skills program. The purpose of this study was to explore and compare athlete perceptions regarding the impacts, usefulness and benefits of Traditional and Adapted performance profiling procedures. Athletes believed that Adapted performance profiling was not only useful, but had a significantly bigger impact on their self-awareness, motivation, and intention to participate in a future psychological skills program, than the impact of Traditional performance profiling.

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Table of Contents

Abstract .....

Acknowlegements .....

CHAPTER 1: REVIEW OF LITERATURE: 1

- Long-Established Sport Psychology Consultant-Athlete Relationship 1
- Personal Construct Theory and Performance Profiling 3
- Butler and Hardy's (1992) Traditional Performance Profiling Procedure: 5
- Stage 1: Introducing the idea 6
- Stage 2: Eliciting Attributes 6
- Stage 3: Assessment 8
- Adaptations to Butler and Hardy's Traditional Performance Profiling Procedure: 9
- Performance Profiling and Increasing Athlete Self-Awareness: 11
- Performance Profiling and Basis for Goal Setting: 13
- Performance Profiling and Effective Sport Psychology Practice: 16
- Performance Profiling and Motivation: 18
- Performance Profiling and Adherence to Psychological Training Program: 21
- Summary 25

CHAPTER 2: RATIONALE, PURPOSE & HYPOTHESIS 28

- Rationale 28
- Purpose Statement: 30
- Specific Objectives: 30
- Hypotheses 30

CHAPTER 3: METHODOLOGY 35

- Participants: 35
- Table 1. Demographic Means and Standard Deviations (SD) by profiling group 35
- Measures: 35
- Demographic variables. 35
- Athlete Performance Profile Questionnaire: 36
- Sport Injury Rehabilitation Adherence Scale (Adapted for Sport Psychology): 37
- Procedures: 38

CHAPTER 4: RESULTS 42

- Data Analysis 42
- Table 2 43

Results 43
Hypotheses testing 44
CHAPTER 5: DISCUSSION 48
Descriptive statistics 43
Descriptive Data: 48
Research Question #1: Adapted Performance Profiling and Perceived Impacts 49
Research Question #2: Adapted Performance Profiling Vs Traditional Performance Profiling 52
Limitations 57
Implications 60
Future Directions 62
Conclusion 64
References 65
Appendix A: Figure 1 – Example of Performance Profile with Attributes Selected 72
Appendix B: Figure 2 - Example of Performance Profile with Current Ratings Outlined 73
Appendix C: Figure 3 - Example of Performance Profile with Realistic-Ideal Ratings Outlined . 74
Appendix D: Figure 4 – Attribute List Template 75
Appendix E: Figure 5 – Blank Performance Profile 76
Appendix F: Figure 6 – Psychological Attribute Definition Table 77
Appendix G: Figure 7 - Constructing a Discrepancy Score from the Performance Profile 78
Appendix H: Figure 8 - Traditional Group Performance Profiling Instructions 79
Appendix I: Figure 9 -Adapted Group Performance Profiling Instructions 84
Appendix J: Figure 10 - Athlete Performance Profile Questionnaire 91
Appendix K: Figure 12 - Sport Injury Rehabilitation Adherence Scale (Modified for Sport Psychology) 93

CHAPTER 1: REVIEW OF LITERATURE:

Long-Established Sport Psychology Consultant-Athlete Relationship

The delivery of psychological skills training to athletes and coaches has typically involved an athlete being prescribed a set list of psychological strategies and techniques to learn and develop (Jones, 1994). This process has been described explicitly by Boutcher and Rotella (1987) and Thomas (1990). Conventionally, a relationship with the sport psychology consultant and athlete begins with a discussion of the aims and objectives, a subjective analysis of the requirements of the respective sport and then various individual assessments of the athlete are carried out. Following this, the sport psychology consultant will implement a brief education program by providing appropriate training in psychological skills and techniques deemed to address issues brought up in the initial discussions, analyses and assessments, followed by an evaluation of the effectiveness of the program facilitated by the sport psychology consultant.

While the athlete is physically present in every step of this process, the power dynamic between the sport psychology consultant and the athlete bears similarity to a doctor-patient relationship (Butler & Hardy, 1992). This is particularly evident at the assessment stage of the process, when the sport psychology consultant typically employ questionnaires, structured interviews, and behavioral observation to arrive at a judgment of what the athlete's needs are.

The process of using interviews, questionnaires and behavioral observation to determine an athlete’s psychological strengths and weaknesses has been criticized as the athlete is forced to assume a relatively passive role in deciding which areas to work on and what techniques should be implemented to improve in these areas (Jones 1994;

Weinberg & Williams, 2001). This approach can often lead to a situation where the sport psychology consultant has to convince and explain to the athlete that they really need to work on a particular aspect of his or her psychological skillset (Butler & Hardy, 1992). Athletes may view their needs and weaknesses in a different light to those areas identified by others around them; therefore, if an athlete play a passive role in the planning and organization of his or her psychological skills training program, they can inevitably become frustrated and display a reduced commitment to the proposed psychological skills program (Butler, 1997). Additionally, motivation and adherence problems can occur if the athlete does not fully accept the decisions made following a needs assessment (Weinberg & Williams, 2001).

In observing the prevalence of athlete performance assessment strategies failing to consider athlete perceptions, Butler and Hardy (1992) proposed the 'Performance Profile'. Originally dubbed the "self-perception map" (Butler, 1989), the performance profile is a performance assessment tool that places the athlete at the heart of his or her development. The athlete-centered nature of the procedure was designed to enhance an athlete's self-awareness of the factors that lead to successful performance, enable the coach to understand the athlete's perspective, and improve adherence to various training programs (Butler, 1989; Butler, Smith & Irwin, 1993). Ever since its inception, sport psychology consultants have started using Butler and Hardy's (1992) performance profiling procedure to facilitate open, respectful and healthy relationships between themselves and the athlete, in order to thwart the potentially damaging effect that Traditional, externally controlled assessment methods have on athlete motivation (Weston, Greenlees & Thelwell, 2013). This approach therefore not only aims to create a

relationship dynamic that facilitates valuable insight from athletes to be divulged (where previously certain information may never have been revealed), but also seeks to empower athletes to commit and adhere to training programs.

Personal Construct Theory and Performance Profiling

In defining their performance profiling procedure, Butler and Hardy (1992) declared that their new take on performance assessment developed as a 'natural application' (p. 254) of Kelly's (1955) Personal Construct Theory (PCT) into a sport performance context. Derived from central principles of PCT, performance profiling encourages athletes to identify the attributes required to be successful in their chosen sport, and then rate their current ability in those areas (Weston, Greenlees, & Thelwell, 2011a). Butler (1997) states that this process enables athletes to become more self-aware of what their performance strengths and weaknesses are, and thus acts as the starting block for goal setting when developing the upcoming training program(s).

PCT is a phenomenological framework that strives to explain how an individual interprets, and thus behaves in the world (Kelly, 1955). The fundamental tenet of PCT is that individuals are continually striving to make sense of the world and themselves by developing their own personal constructions of the events and experiences they perceive (Nicholls & Jones, 2012); importantly it is the perception, not a reality, that is held in the minds of athletes (Newman & Crespo, 2008). Consequently, a key motivation for the development of Butler and Hardy's (1992) athlete-centered performance profiling approach stems from Kelly's 'commonality corollary', which emphasizes that whilst individuals may share a similar interpretation of some life experiences, individuals are

fundamentally idiosyncratic and unique in their construction and interpretation of life events (i.e., Kelly's individuality corollary).

Kelly also postulates that in order for one to play a role in the 'social process' with another (a coach or practitioner with an athlete for example), one must endeavor to be cognizant of the perceptions of the other person (i.e., sociality corollary). Therefore, the relevance of PCT and performance profiling with athletes is explained via the subjective nature of knowledge; athletes may have different perceptions of their abilities than their coaching support staff.

With reference to performance profiling, the PCT has two primary concepts according to Butler (Butler, 1996; Butler et al., 1993):

1. Each athlete is unique in how he or she makes sense of his or her own experiences in sport, which without participating in performance profiling, might otherwise remain at a minimal level of consciousness
2. To understand an athlete's point of view, it is integral that the coach attempts to view things from the athlete's perspective.

Thomas's (1979) extension of PCT further theoretically justifies the profiling approach. He states that individuals increase their self-awareness as a result of active reflection on how they've interpreted specific life experiences (i.e., self-awareness corollary). So, when an athlete undergoes a profiling process, he or she self-reflects on his or her current performance attributes, which in turn results in greater athlete self-awareness. When completing a performance profile, athletes are encouraged to:

> … explore and communicate that which he or she is already taking for granted. Exploring the performer's perspective thus enhances his or her

> own awareness, as well as enabling the coach and sport psychologist to discern something of the performer's perspective… It frees the performer to construct a picture of himself or herself in terms which readily make sense, rather than forcing the performer to respond on pre-determined measures.
>
> Butler and Hardy, 1992; pp. 254-255

Assisting the athlete achieve his or her potential is the fundamental purpose for both the coach/athlete working relationship and the sport psychologist/athlete relationship. When the coach and the sport psychology consultant can start to understand the idea formation or perspective of the athlete, then judgments made in regard to the make-up of the coaching program are profoundly more matched to the athlete's needs (Butler & Hardy, 1992). It is therefore essential for the sport psychology consultant to encourage the athlete to explore and communicate, as exploring the athlete's perspective not only improves his or her own awareness, but it also allows the coach and sport psychology consultant to discern something of the athlete's perspective.

Butler and Hardy's (1992) Traditional Performance Profiling Procedure:

According to Butler and Hardy (1992) procedure, performance profiling generally involves three basic stages. Firstly, the concept of the Traditional performance profiling procedure is introduced to the athlete to provide an overview of the procedure and how it can benefit his or her competition preparation. Secondly, the athlete identifies attributes that they perceive to be fundamental to elite performance in his or her chosen sport. Lastly, the athlete provides a current assessment of his or her abilities in regard to these attributes and the scores are presented on a visual profile.

Stage 1: Introducing the idea

The first step involves the sport psychology consultant introducing the Traditional performance profiling procedure to athletes as a way to shed light on how they are presently feeling about their preparation for competition. Typically, examples of Traditional completed performance profiles are presented to athletes to illustrate the objective of the procedure (see Figures 1-3). It is explained to them that the Traditional performance profile process may firstly increase their own awareness of the attributes essential for successful performance in their sport/position, and consequently highlight their perceived strengths and weaknesses. In addition, the sport psychology consultant emphasizes that the completed profile could be the catalyst for structuring future training programs with their coach, by helping direct training to areas of perceived need. The final phase of this step involves instructing athletes that there are no right or wrong answers, as the technique instead aims to reveal what they deem important.

Stage 2: Eliciting Attributes

Stage two involves the generation (by an athlete or group of athletes, depending on whether the session is delivered on a one-to-one or group basis) of attributes that athletes perceive as underpinning elite athletic performance in the sport/position in question. When constructing performance profiles with athletes, they are asked to reflect on and consider this question, "What in your opinion are the attributes or characteristics of an elite athlete in your sport?" (Butler & Hardy, 1992, p. 256). To elicit discussion, athletes might be asked to describe attributes that typify the various ways other successful athletes might handle themselves in certain situations.

Some athletes may have some difficulty in generating or choosing attributes. Therefore, in a group or team setting, Butler and Hardy (1992) advocate the use of separating athletes into small groups that are typically structured positionally within the team (i.e., defender, midfielders, forwards etc.), to ensure athletes can bring all the relevant attributes into consciousness. Each group is then typically asked to discuss and create a list of attributes in each area of focus pinpointed for the upcoming training program, including physical, psychological, attitudinal and/or technical (see Figure 4). When a sport psychology consultant is purely working on psychological training development, then the focus may solely on psychological attributes, but typically the profile will consist of attributes from all four discipline areas, given the crossover from other areas, particularly attitudinal and technical. The profiling session process differs for an individual, where the athlete and sport psychology consultant (and/or coach) may reflect on attributes together to generate a shortlist. To avoid the sport psychology consultant having too much influence over the choice of words, Butler and Hardy (1992) suggest that the sport psychology consultant provide a thorough list of attributes that are often required for successful performance. This allows the athlete to select attributes that they consider important from this list (Newman & Crespo, 2008). Alternatively, the sport psychology consultant may ask the athlete to think about his or her favourite athlete(s) and consider what attributes make them such a great athlete (Weinberg & Gould, 2007).

Following the attribute generation phase, each athlete is then given an individual blank performance profile (see Figure 5) where they are invited to select up to 20 attributes (from those brought up during the discussion) that they believe are fundamentally essential for elite performance in one's chosen sport, taking into account

his or her position and/or style of play. Many athletes have a tendency to focus only on areas of weakness, however it is important that they are encouraged to also list important strengths. While athletes are listing each attribute, they must define and describe each attribute on a separate page to minimize any discrepancies that may emerge down the track in the interpretation of a specific attribute (see Figure 6). This is important for the purpose of clarifying for the athlete when they want to re-assess themselves weeks or months ahead, or if a coach is asked to rate them on a specific attribute. A unique feature of the performance profile is the manner in which it is constructed, in that it is framed in the athlete's own words and designed by each individual's own selection of what is considered important. It is thus athlete oriented and athlete specific as they use their own labels and definitions, so in essence they are determining the attributes needed for success.

Stage 3: Assessment

After reflecting upon the key attributes perceived to be most important to perform successfully in one's sport/position, the third and final performance profiling step comprises the athlete's self-assessment of his or her ability in each of the selected performance attributes. Athletes rate their current perception of their ability in each attribute on a scale of 1 ('lowest possible ability') to 10 ('ideal level of performance') and then outline a 'realistic-ideal' target out of 10 for each attribute, to achieve within a set time period (minimum of 2 months, maximum of 1 year). The scores are presented on a visual profile, so when the procedure is completed, it provides a straightforward visual display that highlights the athlete's perceived performance related strengths and

weaknesses. From this completed profile, the athlete, sport psychology consultant and coach discuss the outcomes of the profile and prioritize future training programs.

Adaptations to Butler and Hardy's Traditional Performance Profiling Procedure:

Whilst the majority of performance profiling literature has implemented Butler and Hardy's (1992) Traditional procedure, some variations to that approach have been proposed and published to ensure that the ratings along the scale of an athlete's completed profile are more meaningful to the athlete(s) completing the profiling session. These adaptations were implemented to ensure that the rating scales are clear, specific, meaningful and provide the athlete with a good understanding for what constitutes the differences between a 1 and a 10 rating.

One of the most significant modifications to Butler and Hardy's Traditional approach to performance profiling was by Jones (1993). The performance profile formulated by Jones includes an adaptation in the scoring procedure to bring more attention to profile attributes that require immediate focus at training. Similar to the Traditional procedure, athletes are firstly asked to identify attributes which they perceive an "ideal (sport) player" in their chosen sport possesses. In addition to asking athletes to rate their 'current' and 'realistic-ideal' rating for each attribute on the usual 1 ('couldn't be any worse') to 10 ('couldn't be any better') scale, athletes are also requested to rate the importance of each attribute in that sport on an importance scale of 1 ('not important at all') to 10 ('of crucial importance'). When considering how to rate the importance of each attribute, the athlete(s) is encouraged to come up with as many different contexts in which the profile attribute would be applicable (e.g., in preparation for competition, during training, etc.; Gucciardi & Gordon, 2009). The higher the number of situations in

which the attribute is utilized, the more important that attribute is to the athlete's performance development.

Finally, the *current score* for each attribute is subtracted from the *realistic-ideal target*, then multiplied by the *importance score* in order to arrive at a *discrepancy score* (as shown in Figure 7). Larger discrepancy values divulge the areas requiring the most improvement and indicate that additional attention should be paid to that characteristic (Carron, Eys & Burke, 2007). In adopting this procedure, athletes are able to identify not only those areas of weakness but the athlete also essentially maps out the most important areas that require immediate attention. Munroe, Terry, and Cannon (2002) have recommended that the four target areas with the largest discrepancy scores in the performance profiling exercise should make up the basis of the athlete's short-term goals.

Linking in with Jones' (1993) objective of identifying the relative importance of attributes encompassed within an athlete's profile, Gucciardi and Gordon (2009) proposed a further alteration of Butler and Hardy's (1992) profiling approach. They declared that the Traditional profiling procedure failed to deliver on many of the key principles of Kelly's PCT and thus did not maximize the potential information that could be drawn from an athlete via the performance profile process. Drawing from the dichotomy corollary of PCT, the authors Adapted the profile attribute generation process to include a bi-polar classification of each profile attribute. Rather than just providing a singular term (e.g., self-belief) to describe a profile attribute (as outlined in the original procedure), the authors argued that a bi-polar categorization (e.g., self-belief to self-doubt) at each end of the continuum would facilitate a higher level of understanding as to the athlete's 'psychological processes' (p. 100).

The research is rather limited in terms of evaluating the benefits of not only Butler and Hardy's (1992) Traditional procedure, but in particular the Adapted versions provided by Jones (1993) and Gucciardi and Gordon (2009), despite PCT offering a strong theoretical justification for the use of both profiling procedures (Weston, 2008). This is surprising given the amount of literature reporting the frequent use of performance profiling across an array of sporting contexts by sport psychology consultants in their applied settings (Butler, 1989; Butler & Hardy, 1992; Butler et al., 1993; Dale & Wrisberg, 1996; Jones, 1993; Doyle & Parfitt, 1999; Weston, 2008) and commentary on the wide ranging benefits that can be accrued from its use (Gucciardi & Gordon, 2009). Implemented in the Traditional manner, or with Adapted modifications, performance profiling is a valuable strategy in delivering sport psychology services, and has a range of potential benefits.

Performance Profiling and Increasing Athlete Self-Awareness:

The Traditional performance profile was primarily developed to enhance an athlete's self-awareness of the attributes necessary for successful performance in his or her chosen sport (Butler, 1997; Butler & Hardy, 1992; Butler et al., 1993). This has support from (n = 56) accredited sport psychology consultants in recent research who after administering a single Traditional performance profiling session, perceived that performance profiling is a useful tool to raise athlete self-awareness for individual athletes in team settings (Weston et al., 2010). Weston et al. (2011a) provided support for this notion when their study revealed that athletes reported an increased self-awareness of their performance strengths, weaknesses and the demands of their position in their chosen sport after just a single Traditional performance profiling session. Further, athletes

indicated this increased self-awareness to be useful in initiating improvements in themselves by assisting the athlete and their coach in deciding what specific areas they need to work on and how to structure their training. By getting something down on paper in a visual format, athletes perceived that they were able to highlight and/or self-diagnose the areas that they perceive to be strong, weak and/or need to improve on.

The Traditional performance profiling procedure has also been used in team settings to raise awareness of the characteristics of a successful team. Athletes have suggested that the brainstorming and discussion of mutual performance attributes within a group environment is beneficial in increasing each team member's awareness of the demands of other positions within the team (Weston et al., 2011a). In addition, an increased awareness of the characteristics of a successful team brought about by performance profiling has been pivotal in developing a more open atmosphere for communication within team members. In an intervention by Dale and Wrisberg (1996), team members not only created their own individual profiles, but also identified the characteristics of both a successful team and the ideal coach. At the end of the season, the team as a whole perceived marked improvement on several of its criteria and reported that the profiles became the basis for open and constructive communication about performance at regular points throughout the season. Athletes reported that the Traditional profiling process was valuable in creating an open atmosphere for feedback and discussion, whereby all team members are on the same page and take an active role in using the team criteria as a reference for evaluation of performance.

While the Traditional performance profiling procedure has shown to be effective in increasing athlete self-awareness, Gucciardi and Gordon (2009) have suggested that the

Adapted profiling procedure offers greater detail and insight into one's own perspective. They believe that despite the popularity of the application of the Traditional performance profile in past research, it fails to deliver on some of the key aspects of Kelly's (1955) PCT framework, and thus not maximize the potential information that could be generated from the profiling process. In their case study example of an Australian footballer's perception of mental toughness, they looked at the information gathered from a previous Traditional profiling session carried out by a coach and player and compared it to the information collected after an Adapted profiling session. It became apparent that the Adapted profiling procedure generated a greater scope of information for the athlete, coach and sport psychology consultant, than the Traditional version. The authors stressed that this was not to say that the information obtained via the Traditional version was not useful, but were suggesting rather that the Adapted version afforded the athlete, coach and sport psychology consultant with more information that can be used for developing an effective program(s) that is more tailored to the athlete's needs.

Performance Profiling and Basis for Goal Setting:

As described above, the processes of both the Traditional and Adapted performance profiling procedures led to enhanced awareness, which for the athlete can form the foundations for goal setting. Despite a vast array of evidence demonstrating the effectiveness of goal setting on optimizing performance (Burton, Naylor, & Holliday, 2001; Gould, 2010; Kyllo & Landers, 1995), the availability of effective tools to facilitate goal-setting is sparse. Research has indicated that athletes prefer not only to set their own goals, but also may reject goals ascribed to them in favour of those which they create for themselves (Weinberg, Burton, Yukelson, & Weigand, 1993). It is therefore not

surprising that athlete-centered goal setting has been shown to be effective (Kyllo & Landers, 1995).

Given the self-referent and specific performance attribute focus of the performance profiling process, sport psychology consultants often recommend Butler and Hardy's (1992) Traditional performance profiling procedure as a valuable foundation from which to initiate performance-related goal setting (Butler, 1997; Dale & Wrisberg, 1996; Doyle & Parfitt, 1997; D'Urso, Petrosso & Robazza, 2002; Weston et al., 2010). Through the process of both performance profiling procedures, athletes develop the ability to locate specific areas and landmarks for which to focus their goals toward. This is essential for performance enhancement, as Locke (1969) proposes; goal setting is a conscious intention to accomplish something.

In examining the efficacy of a goal-setting intervention on elite and non-elite boxers' performance, O'Brien, Mellalieu, and Hanton (2009) implemented the Traditional performance profiling procedure prior to goal setting in order to identify the key areas for which to base their goal-setting intervention on. The application of profiling in this manner was supported by the boxers post-intervention, as they perceived that profiling had helped them to identify relevant goals to which they felt committed to. Weinberg and Williams (2001) have also depicted the journey of an athlete who, four months prior to the qualifying competition, had the goal of making the national team. With the help of the sport psychology consultant, the athlete used the Traditional 10-point rating scale to display pictorially what progress the athlete wanted to make in the next month, which instigated awareness of what they would have to do to reach these goals. Upon completion of a goal the athlete would pictorially close the gap between *current*

state and '*realistic-ideal state* in the existing bar depicting starting status (labeled "present") and short-term goal as the target. The profile was beneficial in providing a tool for the athlete, coach and sport psychology consultant to periodically assess and record the athlete's progress in using the intervention to reach his goals. Recent findings from athletes who participated in a single Traditional performance profiling session, suggested that the technique would be helpful for them in setting goals in the future (Weston et al., 2011a). With this in mind, the athlete-centered nature of Butler and Hardy's performance profiling procedure appears to be an ideal foundation from which athlete-involved goal setting can begin.

When describing how to use the Adapted performance profiling procedure as part of a goal setting intervention, Carron et al. (2007) note that wherein lies a large discrepancy value, this signifies that attention should be paid to that performance attribute, and as a result, goals should be set for those specific areas (Munroe et al., 2002; Stevens, 2002). Carron and Hausenblas (1998) have commented that the benefit of using the Adapted profiling exercise before a goal-setting intervention is that it takes into consideration the opinions of the athlete on areas of most concern before implementing a training program. By identifying specific target areas, the stage is set for subsequent goal setting. Munroe et al. (2002) suggest that target areas with the largest discrepancy scores in the Adapted performance profiling exercise should be the foundation for the short-term goals, as they require the most urgent attention. The other characteristics identified with smaller discrepancy scores highlighted through the performance profiling exercise can be the basis of longer-term goals with less urgency.

Performance Profiling and Effective Sport Psychology Practice:

A primary motivation for the development of performance profiling is to bring athletes, their coaches and sport psychology consultants closer together. It is mainly designed with the needs of the athletes and coaches in mind, to facilitate a relationship where both coach and athlete are on the same page. Both Traditional and Adapted performance profiling procedures have been shown to be a method that sport psychology consultants use to assist coaches to understand how athletes rate themselves in the attributes needed for successful performance in their sport (Nicholls & Jones, 2012). This is particularly beneficial in raising the coach and sport psychology consultant's awareness as to what the athlete believes to be the attributes that can facilitate elite performance in his or her sport/position, in addition to assisting them to understand the athlete's perceived strengths and weaknesses (Butler, 1997). Importantly, this not only enables an athlete's self-perception to be understood by the coach but in turn, it aids the athlete to discover how the coach interprets them. To borrow from Kelly's (1955) sociality corollary in PCT, we participate in effective tutelage when we learn to understand one another's construction processes.

Coaches can apply information derived from the athlete to design training schedules in the areas in which players feel they could improve (Butler, 1996). Descriptive research has suggested Traditional performance profiling procedure sessions to be beneficial in assisting the athlete and his or her coaching team to monitor progress in the lead-up to competition (Butler & Hardy, 1992), over the duration of a training camp (Butler et al., 1993) and competitive season (Dale & Wrisberg, 1996). With an increased coach/sport psychology awareness or appreciation of the athlete's view comes

with an enhanced knowledge of the athlete's perception of one's physical, technical, attitudinal and psychological attributes for which to use when designing training plans (Butler & Hardy, 1992). Studies that have explored the perceptions of sport psychology consultants (Weston et al., 2010) and team sport athletes who have administered or participated in a single profiling session (Weston et al., 2011a), found that they perceived the Traditional profiling procedure to be useful in helping monitor athlete progress over time.

Previously, important information from the athlete may not have been apparent or considered in training and coaching plans that were designed without consulting the athlete. By employing the profiling procedure, sport psychology consultants (and/or coaches) are ultimately better able to understand the athlete's perception of performance, more effective at discussing issues with the athlete as both parties are on the same page, and most importantly, training is tailored directly to the athlete's perceived needs and weaknesses (Weston et al., 2013).

One example of the Adapted performance profiling procedure enhancing the delivery of sport psychology services was shown in a case study carried out by Jones (1994). The Adapted performance profiling procedure was implemented with an elite performer ranked among the top ten in the world, who had faced disciplinary action with the sport's governing body over problematic on court behavior. Through the profiling process, the athlete identified four attributes; *concentration*, *preventing frustration*, *composur*e and *relaxed attitude* as key areas for improvement to address in the subsequent cognitive behavioral intervention, as these attributes revealed the largest discrepancy scores. Over the course of the intervention period, the discrepancies for all

four attributes decreased, and in the cases of *relaxed attitude* and *composure*, the discrepancies actually disappeared. A major finding to come out of the case study was the benefit of using the Adapted performance profiling procedure in facilitating the sport psychology consultant's implementation and structure of the mental training programs that met the very specific needs of the athlete. When administered during the psychological intervention, the Adapted performance profiling procedure offered a valuable source of feedback regarding progress both to the sport psychology consultant, coach and to the performer.

Performance Profiling and Motivation:

Whilst all types of performance profiling are considered to be a successful tool for effective sport psychology practice due to its benefits in providing a basis for goal setting (O'Brien et al. 2004), raising self-awareness of strengths and weaknesses (Weston et al., 2010; Weston et al., 2011a), and monitoring progress (Butler & Hardy, 1992; Butler et al., 1993), according to Jones (1994) a significant benefit of implementing performance profiling is its positive impact on the motivation of the athlete so that they will implement and adhere to psychological skills training. The attributes recognized through the performance profiling process as fields of required improvement are generated by the athlete, who consequently are provided with a degree of self-determinism not seen to the same extent in other approaches to psychological skills training. By involving athletes in the decision-making process, their self-motivation to implement and adhere to mental training is likely to be high.

Newman and Crespo (2008) have provided an example of why any type of performance profiling is so important when working with tennis players. They share that

coaches often decide the training program for their athletes and this is typically based on areas where the coach 'perceives' the player needs to develop. They advise that issues can develop with this arrangement when the perceptions the player have about his or her abilities differ to those of the coach. In situations like this, the coach may be delivering a training plan that the athlete does not agree with. For example, if a tennis coach places emphasis on improving the slice-backhand approach but the player feels confident with that part of his or her game (or that it is less important than another area), and that the forehand cross-court drive requires more attention, then the player may lack motivation to work on the slice. If the coach continues to favour areas that they deem important and not focus on areas important to the player, this may affect the player's trust in the coach's judgment, the motivation to work on certain areas the coach has focused on and ultimately diminish the player's commitment and belief in the training plan.

When faced with these potential differences in perceptions, Butler and Hardy (1992) suggest that players and coaches can use their Traditional performance profiling procedure to facilitate self-determined athlete motivation. Drawing from Deci and Ryan's (1985) Cognitive Evaluation Theory (CET), Butler and Hardy proposed that their athlete-centered process would facilitate athlete autonomy and thus generate greater intrinsic motivation to adhere to future training programs. While there has been scarce research evidence to support the profile's motivational properties until recently, anecdotal evidence has suggested that Traditional profiling interventions may help enhance athlete adherence to a performance intervention and achievement motivation respectively (D'Urso et al., 2002). More comprehensive research evaluations of the Traditional profiling procedure's effectiveness by accredited sport psychology consultants have

thrown support behind the procedure to enhance athlete intrinsic motivation, autonomy and self-determination (Weston et al., 2010). Furthermore, British collegiate team sport athletes have suggested that the Traditional procedure would motivate them to train and improve as well as encourage them to take more control and responsibility for their development (Weston et al., 2011a).

Jones (1993) employed the Adapted performance profiling procedure in a case study of a top-10 racket sport player participating in a six-month cognitive behavioral intervention, to maximize the athlete's self-motivation to take part in and adhere to the intervention. At the conclusion of the intervention, the athlete self-reported they were at all times completely committed to participate in and adhere to the psychological training program. The athlete credited this enhanced motivation from participating in an initial performance profiling session, as she was involved in the decision-making process of identifying her own strengths and weaknesses, and consequently the attributes that she really needed to improve. In addition, the athlete's ability to sustain motivation during the training period was helped by the fact that the procedure offered a way to monitor progress on the various attributes identified.

Despite such evidence, Weston et al. (2011b) have provided the only experimental study to examine the impact of repeated performance profiling sessions on athlete intrinsic motivation on 40 collegiate soccer players who produced individual performance profiles using Butler and Hardy's (1992) Traditional procedure. The findings revealed that while a single Traditional profiling session failed to significantly improve athlete intrinsic motivation, three repeated Traditional profiling sessions during the competitive season did. These results support the existing descriptive findings and the propositions of

Butler and Hardy (1992), suggesting that repeatedly profiling athletes within a competitive season could facilitate improvements in athlete intrinsic motivation.

Performance Profiling and Adherence to Psychological Training Program:

Despite a strong theoretical justification for the profile's ability to impact athlete adherence in training interventions, the amount of research available to verify these claims in an applied sports setting is rather limited (Weston, 2008). Jones' (1993) aforementioned case study is a rare example of using performance profiling as a tool to maximize an athlete's motivation to adhere to a psychological training program. This is surprising given the apparent frequent applied use of the technique (Doyle & Parfitt, 1999; Weston, 2008) and other anecdotal suggestions as to the adherence benefits that can accrue from its use (Butler, 1989; Butler et al., 1993; D'Urso et al. 2002). A small number of studies have looked at the impact of Butler and Hardy's (1992) Traditional performance profiling procedure on intrinsic motivation in an applied sport setting and made reference to the possible implications for adherence to future training interventions (Weston et al., 2010; Weston et al., 2011a; Weston et al. 2011b). But no experimental studies in the sport psychology field have examined the potential impact performance profiling may have on athlete adherence to, or even the intention to participate in a psychological skill training program explicitly.

Fortunately, a growing body of research has offered strong support for the relevance of psychological factors impacting processes and outcomes related to adherence in the field of sport injury rehabilitation (Brewer, 2007). In the sport injury rehabilitation world, Brewer (1999) explains that athlete adherence can be separated into 2 parts: (1) adherence to sessions at a clinic and the therapy occurring in them and (2)

adherence to exercise programs at home and self-initiated therapeutic interventions between treatment sessions. It can be argued that when relating to the world of sport psychology, athlete adherence would relate to: (1) adherence to sessions with the sport psychology consultant present and (2) adherence to psychological skill development programs at home, training and during competition without the presence of the sport psychology consultant.

Rates of adherence to home-based physiotherapy programs have been reviewed and provided alarming results, with evidence suggesting that 65% of patients will offer some degree of non-adherence to their rehabilitation (Bassett, 2003). With this in mind, studies such as Marshall, Donovan-Hall, and Ryall (2012) have explored the perceptions of athletes' views on the factors affecting adherence to physiotherapy intervention. The results revealed firstly that a key ingredient to a participant's degree of adherence included the importance of educating and making the injured athlete aware about one's particular circumstance. This includes whether a sound rationale for treatment was provided by the physiotherapist, as well as an explanation of the nature of the injury, realistic expectations, and an understanding of how to manage the injury. Secondly, a significant contributor perceived to impact the level of adherence was the self-motivation to prioritize their rehabilitation, with a number of athletes reporting their rehabilitation adherence to be directly related to their intrinsic motivation. Finally, in similarity to other studies that have found individuals reporting significantly higher adherence to exercise therapy when being given written exercise instructions, compared to those who only receive verbal exercise instructions (Schneiders, Zusman & Singer, 1998), athletes

preferred exercises in a written format as it increased their understanding and helped keep track to monitor the completion of their program.

Since sport psychology literature has not specifically looked at performance profiling and adherence, we have to look to sport injury rehabilitation for past studies. In an examination of the effects of a combined goal setting and Traditional performance profiling intervention on adherence in patients undertaking a lower back pain rehabilitation program (Coppack, Kristensen & Karageorghis, 2012), adherence scores were significantly higher for patients in the experimental group, who undertook a Traditional performance profiling intervention, in comparison who did not complete a performance profile and were in a non-therapy lead program. The authors proposed that the experimental group were focused on specific, individually-tailored goals that promoted adherence, while the other group had less structure and support to assist them to adhere to the program. This supports other sport injury rehabilitation studies that have positive effects goal setting on adherence as well (Evans & Hardy, 2002; Pizarri, Taylor & McBurney, 2005).

Given some of the apparent similarities in the psychological processes and outcomes in sport psychology skill development and sport injury rehabilitation (Brewer, 1998), it can only be deemed reasonable to infer that findings in sport injury rehabilitation could also be salient when considering factors related to psychological skill development in the applied sport psychology realm (Weiss, 2003). It can be argued that these findings in sport injury rehabilitation exemplifying the importance of high self-awareness, intrinsic motivation and the benefit of visually monitoring development and

progress on adherence correlate to the justification of the benefits and use of performance profiling in sport psychology.

Summary

Athletes often undertake a relatively passive role in the decision-making process of their psychological skills training program when sport psychology consultants use interviews, questionnaires and behavioral observation to make a judgment on an athlete's psychological strengths and weaknesses (Weinberg & Williams, 2001). The method of prescribing a list of what psychological strategies and techniques to learn and develop, can lead to the sport psychology consultant recurringly facing difficulties convincing athletes that they should be working on a particular aspect of their psychological skillset (Butler & Hardy, 1992).

Drawing from Kelly's (1955) Personal Construct Theory (PCT), Butler and Hardy's (1992) Traditional profiling procedure empowers athletes to identify the attributes needed to be successful in their chosen sport, and then rate their perceived ability on those attributes. Whilst the majority of performance profiling research has implemented Butler and Hardy's (1992) Traditional procedure, significant modifications to Butler and Hardy's approach to performance profiling have been offered. Firstly, Jones (1993) included an adaptation in the scoring procedure to bring more attention to profile attributes that require more pertinent focus in the athlete's training program. Building on Jones' modified version, Gucciardi and Gordon (2009) proposed an alternative to Butler and Hardy's (1992) Traditional profiling approach by adding a bi-polar classification of each profile attribute to facilitate a higher level of understanding during the process.

Implemented in the traditional manner, or with adaptations, performance profiling offers a valuable strategy in delivering sport psychology services, and has a range of potential benefits. A primary benefit of both performance profiling procedures is in

raising athlete self-awareness as to the attributes necessary for successful performance in his or her chosen sport (Butler & Hardy, 1992). While the Traditional profiling procedure has been perceived to be a useful tool in raising athlete self-awareness from both accredited sport psychology consultant (Weston et al., 2010) and athlete (Weston et al., 2011a) perspectives after a single profiling session, Gucciardi and Gordon (2009) have suggested that the Adapted profiling procedure offers greater detail and insight into one's own perspective.

Since performance profiling process leads to enhanced awareness, and with its athlete-centered nature, it seems to an ideal foundation from which athlete-involved goal setting can begin (Butler & Hardy, 1992). The application of Traditional profiling has been perceived by athletes to help them to identify relevant goals to which they feel committed to in the future (O'Brien et al., 2009), even after one Traditional profiling session (Weston et al., 2011a). It has also been deemed beneficial in providing a tool for athletes, their coaches and their sport psychology consultant to periodically assess and record athlete progress (Weinberg and Williams' 2001). Carron and Hausenblas (1998) have commented that the benefit of using the Adapted profiling exercise before goal-setting, is that it takes into consideration the opinions of the athlete on areas of most concern before implementing a training program.

Research has indicated that athletes prefer not only to set their own goals, but also may reject goals assigned to them in favor of those which they set for themselves (Weinberg et al., 1993). Therefore as Jones (1994) states, a primary purpose of performance profiling is to increase the intrinsic motivation of the athlete so that they adhere to psychological skills training. Anecdotal evidence has suggested that Traditional

performance profiling helped to enhance athlete adherence to a performance intervention and achievement motivation respectively (D'Urso et al., 2002). A case study of an athlete completing the Adapted performance profiling procedure reported an enhanced motivation to a training program as a result of being involved in the decision-making process of identifying her own strengths and weaknesses (Jones, 1993).

Despite a strong theoretical justification for the use of both profiling procedures in getting athletes to adhere to training programs, the amount of research available to verify these claims in an applied sports setting is rather limited (Weston, 2008). This is surprising given the apparent frequent applied use of the Traditional technique in particular (Doyle & Parfitt, 1999; Weston, 2008) and anecdotal suggestions as to the adherence benefits that can accrue from its use (Butler, 1989; Butler et al., 1993; D'Urso et al. 2002; Jones, 1993). With a lack of research in the sport psychology field examining the potential impact performance profiling may have on athlete adherence to psychological skill training programs explicitly, we have to draw from other fields such as sport injury rehabilitation.

CHAPTER 2: RATIONALE, PURPOSE & HYPOTHESIS

Rationale

When Butler and Hardy (1992) first proposed performance profiling, they hypothesized that the athlete-centered procedure would enhance an athlete's self-awareness of the attributes necessary for successful performance in his or her chosen sport. Drawing on Deci and Ryan's (1985) Cognitive Evaluation Theory, it was also proposed that this athlete-centered format would facilitate athlete autonomy and thus instill greater intrinsic motivation to adhere to future training programs (Jones, 1994). Central to the rationale for an athlete-centered approach was the desire to overcome the stifling effect that traditional, externally controlled assessment approaches (i.e., via coach or sport psychology consultant) could have on athlete motivation toward future training programs. Therefore, the delivery of a psychological skills training program to an athlete may be have diminished effect when they are forced to assume a relatively passive role in deciding which areas to work on and what techniques to practice to improve in these areas (Jones 1994; Weinberg & Williams, 2001).

Despite a sound theoretical rationale (Butler & Hardy, 1992), anecdotal consultant opinions (Doyle & Parfitt, 1999; D'Urso et al., 2002; Jones, 1993), and descriptive athlete evidence (Weston, 2011a) that advocate for the use of both Traditional and Adapted performance profiling procedures in enhancing the delivery of sport psychology training interventions, very limited research has examined the phenomenon in regard to its impact on adherence in an applied sport psychology setting. This is surprising given the apparent frequent applied use of the technique (Doyle & Parfitt, 1999; Weston, 2008)

and suggestions as to the wide ranging benefits that can accrue from its use (Gucciardi & Gordon, 2009; Weston, 2008).

The variations to the Traditional profiling procedure in the Adapted version have been utilized within applied settings, but have received limited evaluation as to their usefulness. Further applied research examining the worth of the Adapted approach to athletes is therefore needed in order to justify their use, particularly from the athlete perspective. Thus, the extended profiling adaptation developed by both Jones (1994) and Gucciardi and Gordon (2009) requires further evaluation to determine its usefulness within applied settings (Weston et al., 2013). Indeed, comparing its usefulness in comparison to Butler and Hardy's (1992) Traditional profiling procedure would help to clarify the most effective profiling approach to adopt with athlete populations.

Whilst Weston and colleagues have provided a consultant (2010) and athlete perspective (2011a) of the efficacy of a single performance profiling session, they only confined their exploration of athlete opinions in reference to the Traditional performance profiling procedure (Butler & Hardy, 1992), and they have not explored perceptions about the impact of performance profiling on adherence. With no other reference point in the sport psychology field, we have to explore literature in other similar fields which has examined factors leading athlete adherence to training programs, such as sport injury rehabilitation. Of interest, factors such as greater self-awareness, the ability to track and monitor progress, and higher intrinsic motivation have been shown to impact positively on adherence in sport injury rehabilitation settings (Marshall et al., 2012). Given that both performance profiling procedures have been demonstrated to also increase self-awareness, act as a tool for goal setting and to improve intrinsic motivation, it makes

sense to replicate these findings in an applied sport psychology setting to examine the impact and relationship of these factors with potential adherence to a sport psychology training program.

Purpose Statement:

The purpose of this study was to explore and compare athlete perceptions regarding the impacts, usefulness and benefits of a single Traditional and a single Adapted performance profiling session. Specifically, this study fundamentally sought to determine, from an athlete's perspective, the perceived future benefits of Traditional and Adapted performance profiling. Given that this study looked at perceptions towards a future proposed psychological skills program, we specifically examined the degree of perceived participation intention towards a future psychological skills training program in an applied sports psychology setting, rather than adherence.

Specific Objectives:

1. To examine athlete perceptions on the usefulness, impacts and benefits of the Adapted performance profiling procedure after a single performance profiling session, in particular on level of intention to participate in a future psychological skills program.
2. To explore differences of athlete perceptions of the usefulness, impacts and benefits of the Adapted profiling procedure in comparison to the usefulness, impacts and benefits of the Traditional profiling procedure, in particular on levels of intention to participate in a future psychological skills program.

Hypotheses

1. It was hypothesized that:

a. After completing a single performance profiling session, athletes would indicate that they perceive Adapted performance profiling to be a useful procedure to positively impact self-awareness.

Rationale: Weston et al. (2011a) found that after completing one Traditional performance profiling session, athletes reported that it impacted on aiding their self-awareness of strengths and weaknesses. The adaptation recommended adding a bi-polar classification to each attribute which may facilitate a higher level of understanding (Gucciardi & Gordon, 2009).

b. After completing a single performance profiling session, athletes would indicate that they perceived Adapted performance profiling to be a useful procedure to enhance athlete motivation.

Rationale: Weston et al. (2011a) found that after completing one Traditional performance profiling session, athletes reported that performance profiling helped in motivating them to improve and to continue to set goals for themselves.

c. After completing a single performance profiling session, athletes would indicate that they perceived Adapted performance profiling to be a useful procedure for which to positively impact levels of participation intention toward a future psychological skill training program.

Rationale: Anecdotal evidence has suggested that performance profiling may enhance athlete adherence to a performance intervention (D'Urso et al., 2002; Jones, 1993), while athletes have suggested that the procedure

may motivate them to train and improve as well as encourage them to take more control and responsibility for their development (Weston et al., 2011a).

2. It was hypothesized that:
    a. Athletes would perceive that the Adapted performance profiling procedure would be more useful than the Traditional performance profiling procedure.

       Rationale: The Adapted version affords a greater understanding of one's perspective and can help maximize the information generated from the performance profiling process that can be used for developing specific individualized psychological skills training programs (Jones, 1993).
    b. Athletes would perceive that the Adapted performance profiling procedure would be more impactful, in regard to the variables of self-awareness and motivation, than the Traditional performance profiling procedure.

       Rationale: Gucciardi and Gordon (2009) have stated that the original profiling procedure fails to draw upon several of the key tenets of Kelly's PCT and thus does not maximize the potential information that could be drawn from an athlete via the performance profile process. The adaptations that draw upon the dichotomy corollary of PCT to include a bi-polar classification of each profile attribute (e.g., self-belief to self-doubt) at each end of the continuum, facilitate a higher level of understanding as to the athlete's psychological processes. While the Traditional performance profiling procedure has demonstrated the ability

to enhance athlete motivation to embark upon and adhere to a mental training program (Weston et al. 2011b), perhaps the deeper methodical process of the Adapted profiling procedure creates a deeper level of self-determination not found in other approaches which may have lead to higher levels of motivation.

c. Athletes would perceive that they would benefit more from completing the Adapted performance profiling procedure in the future than the Traditional performance profiling procedure.

   Rationale: The performance profile formulated by Jones includes an adaptation in the scoring procedure from the Traditional performance profile. In adopting this procedure, athletes are able to identify not only those areas of weakness, but the athlete also essentially maps out the most important areas that require the most immediate attention at training (Munroe et al., 2002). These variations to the procedure ensure that the completed performance profile is more meaningful and impactful to the athlete (Weston et al., 2013).

d. Athletes who developed an Adapted performance profile would exhibit higher levels of intention to participate in a future psychological skills program in the future than those who completed the Traditional performance profiling procedure.

   Rationale: Athletes' ability to locate specific areas and landmarks for which to focus relevant goals toward what they feel committed to

(O'Brien et al., 2009), will be increased as a result of the scoring procedure adaptation. as target areas with the largest discrepancy scores in the performance profiling exercise will make up the basis of the athlete's short-term goals. Individuals that are focused on specific, individually-tailored targets that promote adherence, have been shown to assist adherence to psychological interventions in the sport injury rehabilitation program (Coppack et al., 2012).

CHAPTER 3: METHODOLOGY

Participants:

The present study recruited 121 male national squad Australian Football players between the ages of 18-35 years. Participants were Canadian or Irish athletes based in Ontario who have represented their province/county, and are competing for a spot on their respective national teams to participate in the 2017 International Cup of Australian Football. The exclusion criteria for participants in this study included any athletes who had participated in performance profiling before.

Descriptive statistics were calculated for the Adapted Performance Profile and the Traditional Performance Profile Group. T-tests were conducted to examine any significant differences on demographic variables such as age and competitive experience. No significant differences were found.

Table 1. ***Demographic Means and Standard Deviations (SD) by profiling group***

	Both		Traditional Profiling (n = 61)		Adapted Profiling (n = 60)	
Variable	Mean	SD	Mean	SD	Mean	SD
Age	23.81	2.99	23.91	3.01	23.72	2.98
Years of experience	4.49	2.33	4.79	2.48	4.20	2.15

Measures:

Participants completed a series of questionnaires used to assess the following information (see appendices for all questionnaires).

Demographic variables.

Age, years of competitive experience, position, and prior experience of performance profiling were collected through self-report.

Athlete Performance Profile Questionnaire:

This questionnaire was developed to examine athletes' (Weston et al. 2011a) perceptions of the usefulness, impacts and benefits of Butler and Hardy's (1992) performance profiling procedure. The development of the questionnaire began with accredited sport psychology consultants (n = 6) being interviewed to provide a thorough insight of the usefulness and impact of performance profiling from a consultant's perspective (Weston et al., 2010). Through an inductive content analysis of these interviews along with a review of the literature, higher order themes were established to produce a quantitative questionnaire called the Consultant Performance Profiling Questionnaire (CPPQ). Similarly, an investigation of athlete perceptions of Butler and Hardy's (1992) procedure firstly involved employing a performance profiling procedure on a male rugby union team. Following the profiling session players (n = 8) were interviewed regarding their perceptions of the usefulness and impact performance profiling. An inductive content analysis of the interviews produced a number of higher order themes that were combined with a review of the profiling literature to produce a quantitative questionnaire called the Athlete Performance Profiling Questionnaire (APPQ; see Figure 10-11). The internal reliability of APPQ impact items has been assessed, producing a Cronbach alpha value of. 92, indicating good internal reliability (Bryman & Cramer, 1999).

Upon completion of a performance profiling session, the APPQ quantifies athlete perceptions of the profiling session by firstly asking athletes how useful they found the performance profiling procedure (Traditional or Adapted) to be and whether they would benefit from doing profiling in the future. Secondly, athletes are asked to stipulate how

much of an impact the single profiling session had been on nine impact statements (e.g., "helped to highlight my strengths"). Thirdly, athletes are asked to indicate the extent to which they would benefit from using the performance profile in the future on 15 statements (e.g., "to set goals for myself").

Sport Injury Rehabilitation Adherence Scale (Adapted for Sport Psychology):

Finally, athletes are asked to indicate the degree of perceived participation in a future sport psychology program that focuses on their 4 target areas derived from their performance profile exercise. The wording of the items was modified from a sport injury rehabilitation context, to be suitable for a sport psychology context. As mentioned in the original survey, "the scale can also be used with reference to adherence tendencies in general by using the present tense" (Brewer et al. 2000). This is a three-item scale that measures (a) the degree to which athletes exert themselves, (b) the degree to which athletes would follow the instructions/advice of the training program and (c) the degree to which patients are receptive to changes in their existing training program. Athletes respond to all these questions on a 5-point Likert scale of 1 (not at all) to 5 (very much) where 3 constitutes a moderate score, in reference to a future psychological skills program that would be based on the four discrepancy areas highlighted from their performance profiling process. For example, if an athlete was to be given a psychological skills program that provided exercises to cope with anxiety, to what degree would the athlete perceive they would follow these exercises. Numerous studies have scrutinized the psychometric properties of the SIRAS. Brewer et al. (2000) offered initial support for the test–retest reliability (intra-class correlation = 0.77 over 1-week period), internal consistency (Cronbach alpha = 0.82) and unidimensionality of the scale. In addition,

support for the construct validity of the SIRAS has been shown, with high levels of inter-rater agreement on the rater-agreement index found with values ranging from 0.84 to 0.95 (Brewer et al. 2002). Other evidence for SIRAS' construct validity has been found by way of significant positive correlations between SIRAS scores and attendance at rehabilitation sessions, and between SIRAS scores and adherence to home-based rehabilitation activities (Kolt & McEvoy, 2003).

Procedures:

Ethics clearance was obtained from the Brock University Research Ethics Board before the study began. Participants were recruited from provincial and national squad training sessions. After gaining permission from coaching staff of the respective teams, the researcher made an announcement to athletes at the completion of training sessions seeking interested participants in a research study. Once a group of interested athletes expressed interest in participating in the study, the researcher set up a convenient time with the coach to set up a convenient time for both parties to complete the study.

Consistent with the methodologies of Weston et al. (2010 & 2011a), each athlete completed just a single performance profiling session. A performance profiling session is typically delivered with individual athletes or a group of athletes, with the goal of each athlete producing an individualised performance profile. For the purpose of this study, all profiling sessions and subsequent questionnaires were completed at the training facility. 8 (4 Adapted, 4 traditional) profiling sessions were scheduled in total so that each athlete in the sample of 121 athletes could participate in one profiling session. When the 8 time slots for each individual group of 15-16 to complete their session was established, the type of performance profiling condition (Traditional or Adapted) was randomly assigned

to a time slot, with 4 time slots being Adapted sessions and the other 4 being Traditional sessions. Upon arrival at the training facility, participants were asked to provide informed consent. After giving informed consent, the participants were asked to complete their demographic information. The researcher then delivered a group performance profiling session (as per Butler & Hardy's 1992 guidelines for the Traditional procedure, see Figure 8; and as per Jones' 1993 and Gucciardi's guidelines for the adaptation of Butler & Hardy's profile; see Figure 9) to the respective groups.

Each profiling session was initially split into small groups relating to position (e.g., forwards, midfielders and backs, etc.). The researcher asked the athletes to consider "what in your opinion are the attributes or characteristics of an elite athlete in your sport?" (Butler & Hardy, 1992, p. 256). In their small positional groups, athletes were asked to consider as many physical, technical, psychological and attitudinal attributes for their position. Following the brainstorming of the attributes produced by the small group, athletes then were asked to split up and individually identify up to (and no more than) 20 attributes that they felt were psychological and important to their own individual performance taking into consideration their style of play, position, and personality.

Athletes in the Traditional performance profiling group condition then transferred these attributes onto their own individual blank circular target (see Appendix 1 for an example performance profile) and then rated their *current* ability on each attribute on a scale of 1 ("very poor") to 10 ("the best I can possibly be"), and then set a *realistic-ideal* target rating out of 10 (two months in advance). Athletes then used the profile to select four target areas for which to make up the basis of their short-term goals list for which to base a future psychological program on.

Those in the Adapted performance profiling session group also then transferred their attributes onto a blank circular target, but in addition added a bi-polar classification to each attribute at each end of the continuum (e.g., self-belief to self-doubt). Following that the athletes rated the importance of each attribute in their sport on an importance scale of 1 ('not important at all') to 10 ('of crucial importance'). When informing the athlete how to rate the importance of each attribute, the researcher encouraged the athlete to think of as many different contexts in which the profile attribute would be applicable (e.g., in preparation for competition, during training, etc.). Athletes then subtracted the *current score* for each attribute from the *realistic-ideal score*, then multiplied that by the *importance score* in order to arrive at a 'discrepancy' score. (as shown in Figure 7). Larger discrepancy values divulged the areas requiring the most improvement and indicated that additional attention should be paid to that characteristic (Carron et al., 2007). In accordance with Munroe et al.'s (2002) recommendation athletes used the four target areas with the largest discrepancy scores from their performance profiling exercise to make up the basis of a future psychological training program on.

Athletes then completed the Athlete Performance Profile Questionnaire (APPQ, see Figure 10), then the Sport Injury Rehabilitation Adherence Scale (SIRAS, see Figure 12), which was modified for sport psychology. Upon completion, the participants returned the questionnaire package to the researcher, and were welcome to keep their completed profile. Participants were then fully debriefed about the study, which included an open invitation from the researcher to athletes seeking to act upon their profile, to meet after the session.

For the sake of this study, each individual performance profiling session was timed and recorded to track how long each session endured. This task was carried out for the purpose of comparing the time taken to complete the Traditional sessions, in comparison to the Adapted sessions. Further analyses were done to determine if there were any significant differences between the two types of performance profiling.

CHAPTER 4: RESULTS

Data Analysis

Treatment of Missing Data

All data were entered into SPSS 24.0 and screened visually for missing data. For one instance where data for a complete questionnaire were missing, the subject's data were not used for any analyses involving that questionnaire. To ensure particular items were not missing, visual inspection for missing items was carried out to ascertain the quantity and pattern of missing data. Overall, there was no data missing.

Normality of Sampling Distribution: Skewness and Kurtosis. The majority of statistical tests are based on the assumption of a normal distribution. There are two aspects to the normality of a distribution: skewness and kurtosis. Skewness describes the symmetry of a distribution, while kurtosis refers to the peakedness of the distribution. Both skewness and kurtosis were calculated for each variable by group, and were tested against a null hypothesis of zero by using a significance test as outlied by Tabachnick and Fidell (2007). All values were non-significant, indicating no evidence of abnormal skewness or kurtosis within this sample.

Linearity. Linearity occurs when two variables are related by a straight line relationship. The assumption that the data is linear was assessed by examining bivariate scatterplots by group for all possible combinations of variables (Tabachnick & Fidell, 2007). No evidence of a non-linear relationship was found examining the scatterplots within the four combinations of variables.

Homogeneity of Variance. Homogeneity of variance describes an ideal situation where there is equal or similar variance across all groups for each independent variable.

This was tested by calculating F_{max} (ratio of the largest to the smallest variances) and comparing its values as suggested by Tabachnick and Fidell (2007), given that the sample size for each group was approximately equal (within a ratio of 4:1). Within this sample, all F_{max} values were less than the maximum acceptable level of 10, therefore there was no violation of the assumption of homogeneity of variance.

Multicollinearity: No evidence of multicollinearity existed within this sample as all bivariate correlations were <.80 (Tabachaick & Fidell, 2007).

Table 2

Means and Standard Deviations (SD) of Factor Themes by Performance Profiling Group

	Both		Traditional Performance Profiling (n = 61)		Adapted Performance Profiling (n = 60)	
Variable	Mean	SD	Mean	SD	Mean	SD
Usefulness	3.81	0.77	3.46	0.56	4.16	0.78
Impact						
Self-Awareness	12.67	1.79	11.98	1.71	13.38	1.58
Motivation	22.15	3.12	21.39	3.20	22.93	2.87
Benefit PP in future	4.17	0.83	3.95	0.80	4.38	0.80
Total Intention to Participate	12.79	2.25	11.93	2.26	13.67	1.88

Results

Descriptive statistics

Descriptive statistics were calculated to determine the mean (and standard deviation) response of all participants for the Traditional Performance Profiling and Adapted Performance Profiling groups for each study variable (see Table 2). According to the norms of the scoring scale, any score over ‘4’ is deemed as useful, while any score

between ‘3’ to ‘4’ is deemed as moderately useful (Weston et al., 2011a). The descriptive analysis indicated that both types of performance profiling were perceived as being useful (Traditional M = 3.46, *SD* = 0.56; Adapted M = 4.16, *SD* = 0.78), and that the athletes would benefit from a similar session in the future (Traditional M = 3.95, *SD* = 0.80; Adapted M = 4.38, *SD* = 0.80).

Descriptive statistics were also calculated to measure and compare the time taken to complete each adapted (*n*=4), and traditional (*n*=4) profiling session. A *t*-test was calculated to determine if there was a significant difference in time between the profiling procedure conditions. There was no significant difference in time taken to complete session (*t*(6)=2.40, *p*=.053) between the traditional performance profiling group (M = 40.25, *SD* = 2.06) and the adapted performance profiling group (M = 43.75, *SD* = 2.06). Further, Cohen’s effect size value (*d* = -1.70) suggested a low practical significance.

Hypotheses testing

Research Question 1. Impacts of Adapted Performance Profiling

A descriptive analysis was conducted to test the hypothesis that athletes will indicate that after completing a single Adapted performance profiling session, they perceive the Adapted performance profiling to be an effective procedure to positively impact self-awareness. The descriptive analyses indicated that athletes deemed that the Adapted performance profiling procedure was an influential tool to impact athlete self-awareness (M = 13.38, *SD* = 1.58), which includes helping to highlight weaknesses (M = 4.80, *SD* = 0.63), decide what to work on (M = 4.39, *SD* = 0.81) and to highlighting strengths (M = 3.87, *SD* = 1.20). This is in reference to the norms of the scoring scale,

with any score over ‘4’ deemed as useful, while any score between ‘3’ to ‘4’ is deemed as moderately useful (Weston et al., 2011a).

A descriptive analysis was conducted to test the hypothesis that after participating in a single Adapted performance profiling session, athletes will indicate that they perceive Adapted performance profiling to be a useful procedure to enhance athlete motivation. The descriptive analyses indicated that athletes believed that Adapted performance profiling would indeed be a useful procedure to impact athlete motivation (M = 22.93, *SD* = 2.87), which includes helping to take more responsibility (M = 4.77, *SD* = 0.56) and control of their development (M = 4.57, *SD* = 0.74), to motivate to improve (M = 4.65, *SD* = 0.66) and train (M = 4.20, *SD* = 0.28).

A descriptive analysis was conducted to test the hypothesis that after participating in a single Adapted performance profiling session, athletes will indicate that they perceive Adapted profiling to be a useful tool for which to positively impact levels of intention to participate in a future psychological skill training program. The descriptive analyses resulted in athletes suggesting that Adapted performance profiling is indeed a useful procedure to increase levels of intent to participate in a future psychological skills training program (M = 13.67, *SD* = 1.88), which includes being receptive to changes in their existing program (M = 4.73, *SD* = 0.61), displaying maximum effort (M = 4.52, *SD* = 0.65) and would frequently follow instructions and advice of a future psychological skills program (M = 4.40, *SD* = 0.81).

Research Question 2.

A *t*-test was conducted to examine the hypothesis that athletes would perceive the Adapted profiling procedure to be more useful than the Traditional profiling procedure.

Results from the *t*-test showed a significant difference in perceived usefulness ($t(119) = 5.70$, $p = 0.01$) between the two profiling groups. This finding that the Adapted performance profiling procedure had statistically higher usefulness ratings than the Traditional procedure, provides strength to the notion that athletes perceive the adaptations increase the usefulness of performance profiling.

A multivariate analysis of variance (MANOVA) was conducted to test the hypothesis that athletes would perceive the Adapted performance profiling procedure to be more impactful, in regard to the variables of self-awareness and motivation, than the Traditional performance profiling procedure. Results from the MANOVA showed a significant difference in perceived impact in impacting self-awareness ($F(1,119) = 21.82$, $p = .01$) and motivation ($F(1,119) = 7.77$, $p = .01$) between the two profiling procedures groups. In other words, since the Adapted performance profiling group had higher mean totals, it is statistically had a significant larger impact on athletes than the Traditional performance profiling procedure.

A *t*-test tested the hypothesis that athletes who participated in the Adapted profiling session would place a higher perceived benefit from a follow-up Adapted profiling session, than the perceived benefit deemed on a follow-up Traditional profiling session by athletes who participated in the Traditional profiling session. Results from the *t*-test showed a significant difference in perceived benefit from a similar session in the future ($t(119) = 2.96$, $p = .01$) between the two profiling groups, with athletes participating in the Adapted profiling procedure deeming more benefit would be gained from a similar Adapted profiling procedure than their counterparts in the Traditional group.

A *t*-test tested the next hypothesis which stated that athletes who developed an Adapted performance profile would perceive to be more likely to participate in a future psychological skills program than those who completed a Traditional performance profile. Results from the *t*-test showed a significant difference in intention to participate ($t(119) = 4.57$, $p = .01$) between the two profiling groups. Given the high mean totals recorded by athletes in the Adapted profiling group than those in the Traditional group, this supports the notion that athletes will be more likely to intend to participate in a future psychological skills training program if they complete an Adapted profiling procedure, than those who complete a Traditional performance profiling procedure.

CHAPTER 5: DISCUSSION

The purpose of this study was to explore and compare athlete perceptions regarding the impacts and usefulness of Traditional and Adapted performance profiling procedures. Specifically, this study fundamentally sought to determine, from an athlete's perspective the perceived future benefits of Traditional and Adapted performance profiling, specifically the degree of participation intention towards a future psychological skills training program in an applied sports psychology setting.

Descriptive Data:

This study offers the first effort to evaluate athlete perceptions regarding the usefulness, impact and benefits of the Adapted performance profiling procedure developed by Jones (1994) and Gucciardi and Gordon (2009). The findings from the study indicate that athletes believed the Adapted profiling procedure to be useful and that they would benefit from profiling in the future. This supports descriptive research (Butler, 1989; Butler & Hardy, 1992; Butler et al., 1993; Dale & Wrisberg, 1996; Jones, 1993, Palmer et al., 1996), past findings from Weston et al. (2011a) and to some degree Weston et al.'s (2011a) replicated findings in this study regarding the usefulness and future benefit of the Traditional performance profiling procedure.

While this study offered the first effort to evaluate athlete perceptions regarding the Adapted Performance Profile, it is also the first study to compare differences between the Traditional profiling procedure and the Adapted Profiling procedure. One interesting finding from the study was that there was no significant difference in the time taken to complete the traditional profiling sessions, in comparison to the adapted profiling sessions. Although all of the adapted profiling sessions took longer than any of the

traditional sessions to complete, the difference in time could be considered trivial and not significant enough to raise as an influential factor.

Research Question #1: Adapted Performance Profiling and Perceived Impacts

The first research objective examined the perceptions of athletes concerning the impacts of the Adapted performance profiling procedure. While Weston et al. (2011a) looked at the impacts of the Traditional performance profiling procedure, these findings are the first to present on the Adapted profiling procedure. The results for this first research question supported the hypothesized outcomes. In regards to the perceived impact of a single Adapted performance profiling session on self-awareness, motivation, and intention to participate in a future psychological skill training program, our hypotheses stating that athletes would perceive being positively impacted in all of these themes, was supported by the findings.

Given that the Traditional procedure was originally designed as an athlete-centered tool to enhance an athlete's self-awareness of the factors that lead to successful performance, it is no surprise that this study's findings echoed with previous literature. Athletes indicated that they believed Adapted performance profiling to be a useful procedure to highlight their weaknesses and to decide what to work on. Butler and Hardy (1992) suggest that the self-referent nature to Traditional performance profiling increases athlete self-awareness, as athletes go through an active process of understanding their own thought deconstruction. Adding adaptations such as including a bi-polar classification to each attribute, certainly did no harm in breaking the thought process down further and facilitating perhaps an even higher level of understanding and awareness (Gucciardi & Gordon, 2009).

Also consistent with previous findings was the concept that the Adapted profile would be deemed an effective motivational tool by athletes. The present findings strengthened the claim that Adapted performance profiling procedure could increase the motivation of the athlete to improve and train. Butler and Hardy (1992) suggest that performance profiling aids athletes in gaining control over the decisions made regarding their training and development and may positively influence an athlete's motivation. This proposition is backed up by the present descriptive results which suggest that athletes perceived they would use the Adapted profiling procedure in the future to take more control and responsibility for their development.

Performance profiling has been offered as an ideal foundation for goal setting (Butler, 1997; Butler & Hardy, 1992; Butler et al., 1993; Dale & Wrisberg, 1996; Hardy & Jones, 1994) and as an integral tool for sport psychology consultants to use to increase athlete motivation (Filby, Maynard & Graydon, 1999; Kingston & Hardy, 1997). This is a profiling impact that falls under the motivational theme, and previous studies that have examined the viewpoints of accredited consultants (Weston et al., 2010) and athletes (Weston et al., 2011a), have provided strong support for Traditional performance profiling as a basis for which to help athletes set goals. The present study adds to the body of previous descriptive research by advocating for the implementation of Adapted performance profiling in helping athletes to set goals for themselves. A major benefit of conducting an Adapted profiling session before goal-setting is that it clearly takes into consideration the opinions of the athlete on his or her areas of most concern, so ultimately the implementation and structure of the future training program will closely meet the specific needs of the athlete (Carron & Hausenblas,1998).

Following that, the Adapted profiling procedure demonstrated that involving athletes in their own decision making process may lead them to be highly motivated during the initial stages of planning their psychological training program, but importantly also to subsequent participation to a future psychological skills program (Doyle & Parfitt, 1999). Athletes reported that they would frequently follow the instructions and advice of a future psychological skills program and would be highly receptive to changes in their existing program to accommodate for a future psychological skills program. This supports the notion that if you involve an individual in the decision-making process, their motivation to implement and participate going forward is likely to be high.

Deci and Ryan's (1985) Cognitive Evaluation Theory proposed that strategies that enhance an athlete's autonomy will facilitate greater athlete intrinsic motivation. Specifically, an improvement in the athlete's perception of his or her competence is believed to positively influence levels of athlete intrinsic motivation. When examining the profiling procedure, it can be argued that performance profiling could positively influence competence and consequently increase intrinsic motivation. Athletes that have participated in previous Traditional performance profiling sessions have shown moderate interest in using performance profiling in their future to monitor their progress. In the present study, athletes indicated a strong interest in using profiling in the future to monitor their progress, which provides credence to the idea that the Adapted performance profiling process may facilitate an increase in perceived competence as athletes track their improvements in profile attributes over time.

Research Question #2: Adapted Performance Profiling Vs Traditional Performance Profiling

The present study provided the first attempt at comparing differences in athlete perceptions of the usefulness, impacts and benefits between Traditional performance profiling and Adapted performance profiling. Therefore the second research objective sought to explore differences in athlete perceptions of the usefulness, impacts and benefits of the Adapted profiling procedure in comparison to the usefulness, impacts and benefits of the Traditional profiling procedure. The results of the second objective supported our hypotheses. Our hypothesis that athletes who participated in an Adapted performance profiling session would perceive it to be more useful than those who participated in a Traditional performance profiling session was supported. In regards to perceived impacts, our hypothesis that athletes who participated in Adapted performance profiling would report that it was more impactful, in regard to self-awareness and motivation, than those athletes who participated in Traditional performance profiling was supported. Our hypothesis that athletes who participated in the Adapted profiling session would place a higher perceived benefit from a follow-up Adapted profiling session, than the perceived benefit deemed on a follow-up Traditional profiling session by athletes who participated in the Traditional profiling session was supported. Finally, our hypothesis that athletes who developed an Adapted performance profile would exhibit higher levels of intention to participate in a future psychological skills program in the future than those who completed the Traditional performance profiling procedure was supported.

The finding that Adapted performance profiling was perceived to be significantly more useful than the Traditional performance profiling procedure supports our

hypothesis. This may give further weight to the variations added to the procedure, as athletes can zero in not only those areas of weakness, but can essentially map out the most important areas that require the most immediate attention at training (Munroe et al., 2002), so that their completed performance profile is more meaningful to them (Weston et al., 2013). This is not to say that the information obtained via the Traditional version is not useful. After all, the original technique has been shown to be effective in raising an individual's self-awareness about the current state of his or her abilities (Butler et al., 1993), while also providing coaches and other personnel with a lucid visual tool to better understand the individual's self-perception of what constitutes elite performance and his or her own rating of how they currently perceive themselves on those aspects (Jones, 1993). Rather, we are suggesting that the revised version affords researchers and practitioners a greater understanding of one's perspective and can help maximize the information generated from the performance profiling process that can be used for developing specific individualized psychological skills training programs.

This leads on to the finding that athletes who participated in Adapted performance profiling, felt significantly more impacted, firstly just in terms of increased self-awareness, than those who participated in Traditional procedure. This not only backs up the findings outlined overtly in a previous case study (Gucciardi & Gordon, 2009) but also in the literature. This difference in generating the maximum amount of athlete self-awareness may be due to the differences in the way attributes are construed from the athlete's psychological processes. The Traditional profiling technique has been successfully implemented in a number of empirical (e.g., Doyle & Parfitt, 1999; D'Urso et al., 2002; Mellalieu & Juniper, 2006; Robazza, Bortoli, & Hanin, 2004) and applied

settings (e.g., Doyle, Gleeson, & Rees, 1998; Jones, 1993) since its conception, with several positive implications being identified for athletes, coaches, and sport psychology consultants. But despite the wide-ranging use of the Traditional performance profiling procedure, the application of the technique has been criticized, as it fails to draw from some of the key tenets of Kelly's PCT (Kelly, 1955) and thus the athlete does not maximize the potential information that could be drawn from one's psychological processes via the performance profile process (Gucciardi & Gordon, 2009).

The adaptations that draw upon the dichotomy corollary of PCT to include a bi-polar classification of each profile attribute (e.g., self-belief to self-doubt) at each end of the continuum, facilitate a higher level of understanding as to the athlete's psychological processes. For example, when generating individual bipolar personal attributes (given that meanings are personal constructions in our own minds), one person may have a completely opposite understanding of an attribute such as '*anger*' in an elite sport context. One athlete may have his or her contrasting pole as '*in-control*', indicating that '*anger*' is the negative pole. Alternatively, another athlete may have his or her contrasting pole as '*disinterested*', signifying that '*anger*' would be the positive pole as they feel they need to play with an edge to perform successfully.

The analyses for the second research objective also examined differences in the perceived impacts and benefits of profiling on motivation between athletes who completed an Adapted profiling session and athletes who completed a Traditional profiling session. The analyses pointed to significant difference between the two profiling sessions, whereby athletes who participated in the Adapted performance profiling session felt a significantly higher degree of motivation, than athletes who completed the

Traditional profiling session. Performance profiling has been considered a valuable tool in delivering sport psychology services for a variety of applications, but as Jones (1994) states, it's primary use is helping maximize the motivation of the athlete so they implement and adhere to psychological skills training.

With this in mind, the present study also compared Adapted performance profiling against Traditional performance profiling on whether or not athletes would believe that they'd benefit from a similar profiling session in the future. The results indicated that athletes who participated in the Adapted profiling procedure believed they would benefit from participating in a similar profiling significantly more than those athletes in the Traditional profiling group/

The present study finally compared Adapted performance profiling and Traditional performance profiling on its ability to maximise intention to participate in a future psychological skills program. The results indicated that athletes who participated in the Adapted profiling procedure presented significantly higher levels of intention to participate in a future psychological skills program than their Traditional profiling counterparts.

These findings echo past research that has demonstrated the power of effectively involving the client in the decision making process to enhance motivation to adhere and participate. When Butler and Hardy (1992) introduced Traditional performance profiling, they described it as an effective tool to overcome negative implications that arise when an athlete plays a relatively passive role in the decision making process of his or her training and development. Butler and Hardy contend that in situations where the athlete is not involved in the decision-making process, this could have significant negative

ramifications for the motivation of the athlete. Drawing from the locus of causality principle of Deci and Ryan's (1985) cognitive evaluation theory, externally controlled dynamics are likely to weaken athlete intrinsic motivation to engage in psychological skills training, and ultimately lead to problems relating to participation and adherence (Bull, 1991).

Evidently, a powerful development occurs for the athlete during the attribute elicitation process of performance profiling, when the athlete generates, identifies and evaluates his or her attributes by themselves. This methodical process provides a degree of self-determination not often found in other approaches (Jones, 1993). The Traditional performance profiling procedure has been previously sufficient in demonstrating its efficacy in enhancing athlete motivation to embark upon and adhere to a mental training program (Weston et al, 2011b). But perhaps the extra detailed steps devoted to the attribute elicitation, identification, bi-polar classification and evaluation stages throughout the Adapted profiling procedure, fosters and consolidates a deeper level of self-determination which may have lead to the higher levels of motivation seen in the present study, and subsequently participation and adherence to a future psychological skills program.

An exemplary model that demonstrates the benefit of the extra adaptations is Jones' (1994) case study which tracked the progress of a professional tennis player's psychological skills training program after an Adapted performance profiling session. Following the identification of the areas requiring specific improvement, the athlete negotiated a strategy with her sport psychology consultant whereby those areas can be improved. At the completion of the program, the athlete self-reported that they were

totally committed to the training program at all times. The athlete attributed this motivation to the initial Adapted performance profiling process of identifying her own strengths and weaknesses, and identifying the most important discrepancy attributes that they needed to improve. In addition, the profiling map provided a way to monitor her progress on each attribute identified, which assisted in sustaining motivation to continue to adhere to the program during the training period.

Limitations

Despite the numerous thesis findings, there are some limitations to the research conducted. Firstly, the athlete population was restricted to one sport, one squad, in one country. It can be suggested that further research is required to examine the opinions of athletes from a wider array of sports and nationalities as to the usefulness, impacts and benefits of Adapted performance profiling.

This study was the first to compare differences between the Adapted and Traditional performance profiling procedures. Granted that this study was quite exploratory in nature, more experimental research is required to examine the impact of Adapted performance profiling. Whilst the current investigation was a strong base for which to validate the Adapted performance profiling procedure, it was limited to evaluating the efficacy of the procedure after just a single session. Given that performance profiling has been promotes as a multiple use intervention (Butler & Hardy, 1992; Doyle & Parfitt, 1997), it would be ideal to have a follow-up study that is longer in duration, with repeated sessions possibly across a competitive season.

This is particularly true when we also look at the phenomenon of adherence to a psychological skills program. While this study provided the first examination of the

impact of performance profiling on the theme of adherence, the design of the study was only a one-time exploration. Hence, the researchers could not measure actual adherence to a psychological skills program, but merely just the perceived intention to participate and adhere to a future psychological skills program. Demonstrating actual adherence to a psychological skills training program as a result of performance profiling (that is the action of actually participating and not just the intention to participate), would provide a significantly more powerful indicator of the impact of performance profiling.

Further, Doyle and Parfitt (1999) demonstrated in their study the impact of athlete mood state on an athlete's profile ratings. They found that positive mood states are likely to influence profile ratings, although not neutral or negative moods did not. Essentially, the study found that the more positive and athlete's mood state was, the higher the profile ratings were likely to be. This suggests that sport psychology consultants should keep in mind the potential impact of an athlete's mood state on profile ratings, while also providing support for using performance profiling as a multiple use intervention to mitigate the impact of mood states.

Although it is acknowledged as an integral strength of the procedure, the athlete-centred focus of performance profiling may potentially carry some risks when working with certain populations. Youth or novice athletes may lack the awareness or knowledge needed to identify relevant attributes for their sport or position, which may lead to performance profiles that do not reflect what would be expected of their position/sport, or an accurate depiction of their current abilities. Given that some of the athletes in this study reported that they had less than three years of experience playing in the sport, it can be suggested that a lack of basic sport awareness may be problematic when eliciting

relevant attributes in developing their performance profiles. It can be noted that this effect may have been somewhat counterbalanced by grouping individuals with team members who may play in a similar position or role to each other to brainstorm the attributes needed for a specific position.

Weston (2008) suggests that it may be beneficial to introduce the attribute list generation exercise to the athletes a week before the actual profiling session. This may give athletes more time to come up with their own list of attributes that they feel are important to their own performance. Viewing and discussing video footage of the athlete themselves (or another elite athlete within his or her sport) performing successfully could also provide the athlete with some prompts for discussion of key performance attributes.

Although the coach is traditionally seen as having an integral role in the construction of an athlete's training program, no past research, or even this study, has specifically evaluated coach perceptions of the usefulness of performance profiling. This oversight is significant given that there is anecdotal evidence within the literature that suggests that some athletes may prefer having their coaches determine their profile attributes, and providing the rating for them in order to identify their critical performance priorities (Weston, 2005). As this conflicts with the athlete-centred approach of performance profiling, further examination is required to identify the extent to which athletes would support the input of their coach in developing their performance profile.

Since no such scale in sport psychology exists to measure adherence to a psychological skills program, this study had to borrow a scale from the sport injury rehabilitation field. Hence the development of a sport psychology specific scale may be required before any further research findings can be fully tested in relation to adherence.

Implications

The first major implication of the present thesis findings is that elite athletes strongly believe Adapted performance profiling to be a useful strategy and that they would benefit from Adapted performance profiling in the future. Of most note, is the fact that athletes perceived that Adapted performance profiling procedure to be significantly more useful than the Traditional performance profiling procedure, while also being significantly more impactful, specifically in athlete self-awareness and motivation. To add further, athletes felt that they would gain more benefit from participating in a follow-up Adapted performance profiling session, than they would from a follow-up Traditional performance profiling session. Finally, athletes exhibited higher levels of intent to participate in a future psychological skills program that involved addressing their discrepancy areas after participating in an Adapted performance profiling session, than those athletes who participated in a Traditional performance profiling session. What is important to note is that these findings do not mean that Traditional performance profiling is a waste of time. In fact, there are many examples demonstrating that Traditional profiling procedure has been shown to be effective in increasing athlete self-awareness (Butler et al., 1993). What these findings make evident is the point that the Adapted profiling procedure offers athletes, coaches and sport psychology consultants a greater understanding of the athlete's perspective than what the Traditional procedure is capable of producing. Thus, more information can be drawn from the Adapted performance profiling process than the Traditional performance profiling process, which can then be used for developing psychological skills training programs.

It could be suggested that while the extra steps of Adapted profiling may produce a performance profile that generates more information, the extra time needed to complete an Adapted profile may undermine the main objective, which is to engage the athlete into the decision-making process. In other words, the Traditional profiling procedure may have been doing a sufficient job already, why go further into detail if it is just going to bore the athlete? What the findings in this study show however, is that given that there was not a significant statistical difference between the time taken to complete the Adapted profiling sessions and time taken to complete the Traditional profiling session, any concerns about Adapted profiling taking too long in future research or applied settings can be minimized. This is significant because it can be argued that a perceived barrier to any form of performance profiling being widely endorsed by coaches and athletes, is the work and time needed to devote away from training to focus on performance profiling. This finding that the adapted profiling procedure doesn't add any more significant extra time onto an already time-intensive procedure, is good news for athletes, coaches and sport psychology consultants alike.

It was mentioned above in this study that previous literature has highlighted the possibility of difficulties emerging in the construction of profiles of younger or less experienced athletes. These concerns expressed relate to athletes possibly lacking awareness of the most relevant and successful attributes required for successful performance in their chosen sport or position or what the difference between a '5' and a '7' might mean. Weston et al (2013) recommend that in such situations it may be suitable to implement the bi-polar classification adaptation as proposed by Gucciardi and Gordon (2009), with the purpose of athletes identifying themselves conflicting definitions at each

end of the continuum. This study found that with the implementation of this approach, encapsulated within the Adapted profiling procedure, that performance profiling can still be quite effective when working with athletes who were only relatively new to their sport. To add, it must be noted that although there are extra steps in the Adapted profiling process, it doesn't take a significantly greater amount of time to complete. Which leads to a school of thought that since adaptations (such as the bi-polar classification exercise) increase the self-awareness of an athlete's abilities, this greater sense of understanding creates a more efficient profiling experience than the Traditional profiling exercise.

Findings in the past have strongly advocated for the use of Traditional performance profiling as a great basis for which to start goal setting (Butler, 1997; Butler & Hardy, 1992; Butler et al., 1993; Dale & Wrisberg, 1996; Doyle & Parfitt, 1997; D'Urso, et al., 2002; Hardy & Jones, 1994). This study proposes that Adapted performance profiling may be an even superior method for which to start goal setting. Athletes who participated in the Adapted profiling session exhibited significantly higher levels of intention of participation in a future psychological skills program, than the athletes who participated in the Traditional performance profiling session. This backs up the statements of Carron and Hausenblas (1998), who advocate for the use of Adapted profiling before a goal-setting intervention because it takes into consideration the opinions of the athlete on areas of most concern before implementing a training program.

Future Directions

While some general further research suggestions have been offered already, there are a few specific future research initiatives that the researchers feel would fully evaluate the usefulness, impact and benefits of the Adapted performance profiling procedure.

Firstly, it has been mentioned that performance profiling is promoted as a multiple use intervention (Butler & Hardy, 1992; Doyle & Parfitt, 1997). Now that this study has provided an initial exploration into the athlete perceptions of the Adapted performance profiling procedure, it would be ideal to have a follow-up study that is longer in duration, with repeated sessions carried out to monitor progress and explore changes in variables such as motivation and adherence over the course of a competitive season. A great course of action would be to replicate or model Weston et al.'s follow-up examination of the impact of repeated profiling sessions on intrinsic motivation (2011b), after they carried out an exploration of the impacts of a single Traditional performance profiling session (2011a).

A multiple use intervention would also be relevant when exploring athlete adherence to a psychological skills program or intervention. A study with this design would allow researchers to record the actual behavior of adherence to a psychological skills training program, and not merely just the perceived intention to participate or adhere to a future psychological skills program.

Conclusion

In conclusion, the present study explored and compared athlete perceptions regarding the impacts, usefulness and benefits of a single Traditional and a single Adapted performance profiling session. Athletes strongly believe Adapted performance profiling to be a useful strategy and that they would benefit from Adapted performance profiling in the future. Importantly, athletes perceived the Adapted performance profiling procedure to be significantly more useful than the Traditional performance profiling procedure, while also being significantly more impactful, specifically in regard to athlete self-awareness and motivation. To add further, athletes felt that they would gain more benefit from participating in a follow-up Adapted performance profiling session, than they would from a follow-up Traditional performance profiling session. Finally, athletes exhibited higher levels of intent to participate in a future psychological skills program that involved addressing their discrepancy areas after participating in an Adapted performance profiling session, than those athletes who participated in a Traditional performance profiling session.

In summary, comparing the Adapted profiling procedure to Butler and Hardy's (1992) Traditional profiling procedure has helped clarify the most effective profiling approach to adopt with athlete populations, which appears to be the Adapted profiling procedure developed through the contributions of Jones (1993) and Gucciardi and Gordon (2009).

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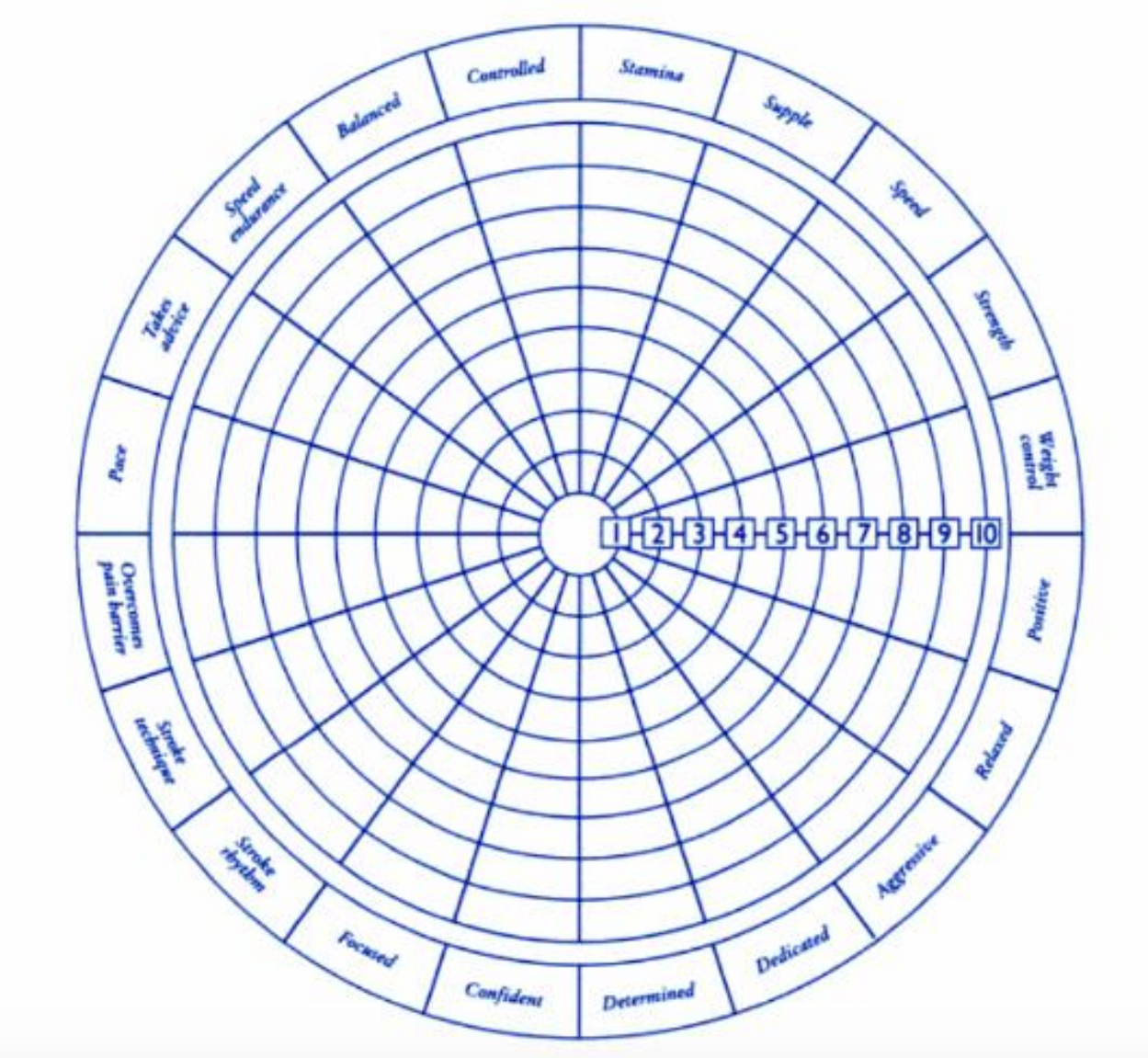
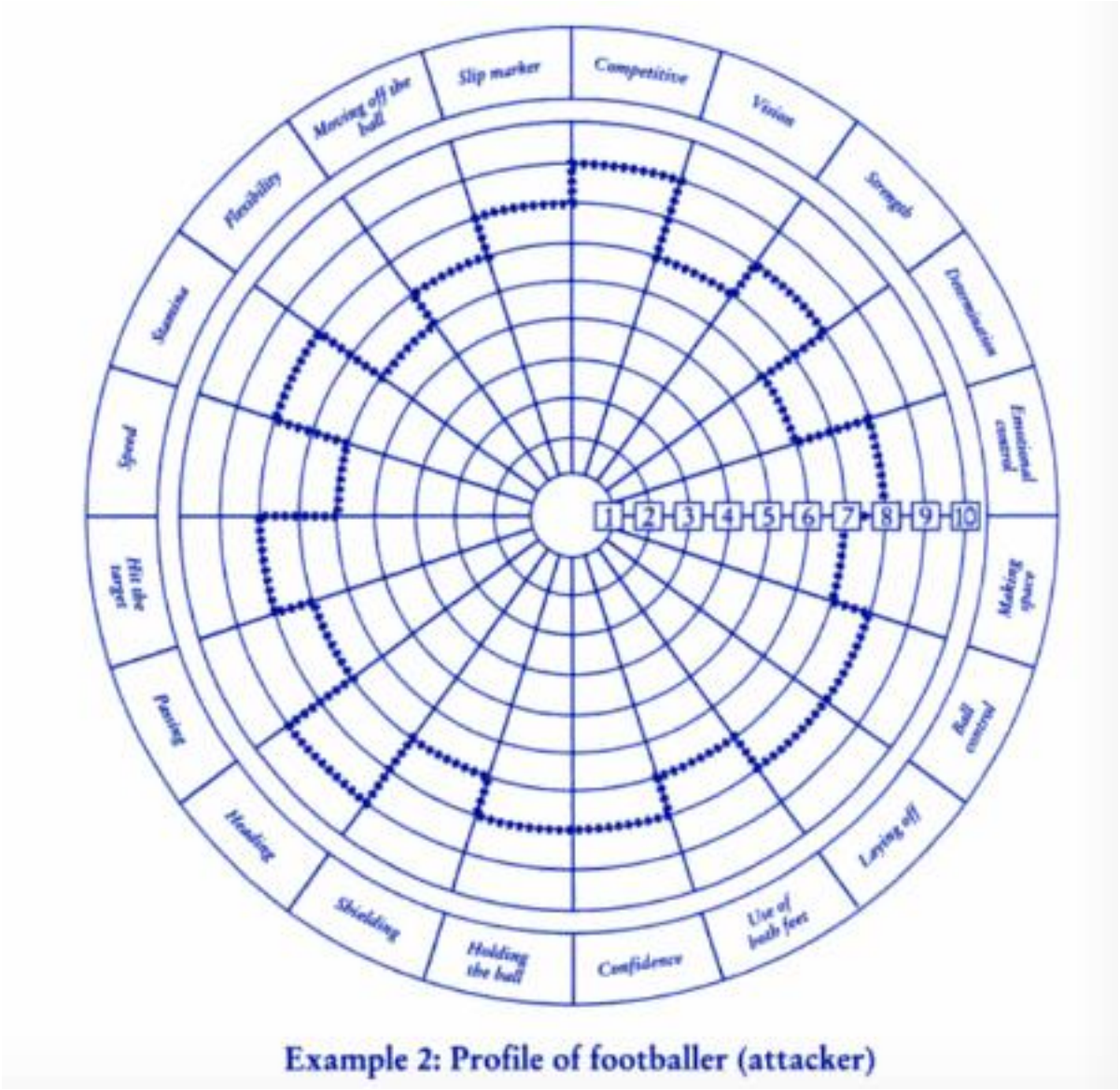
Appendix A: Figure 1 – Example of Performance Profile with Attributes Selected

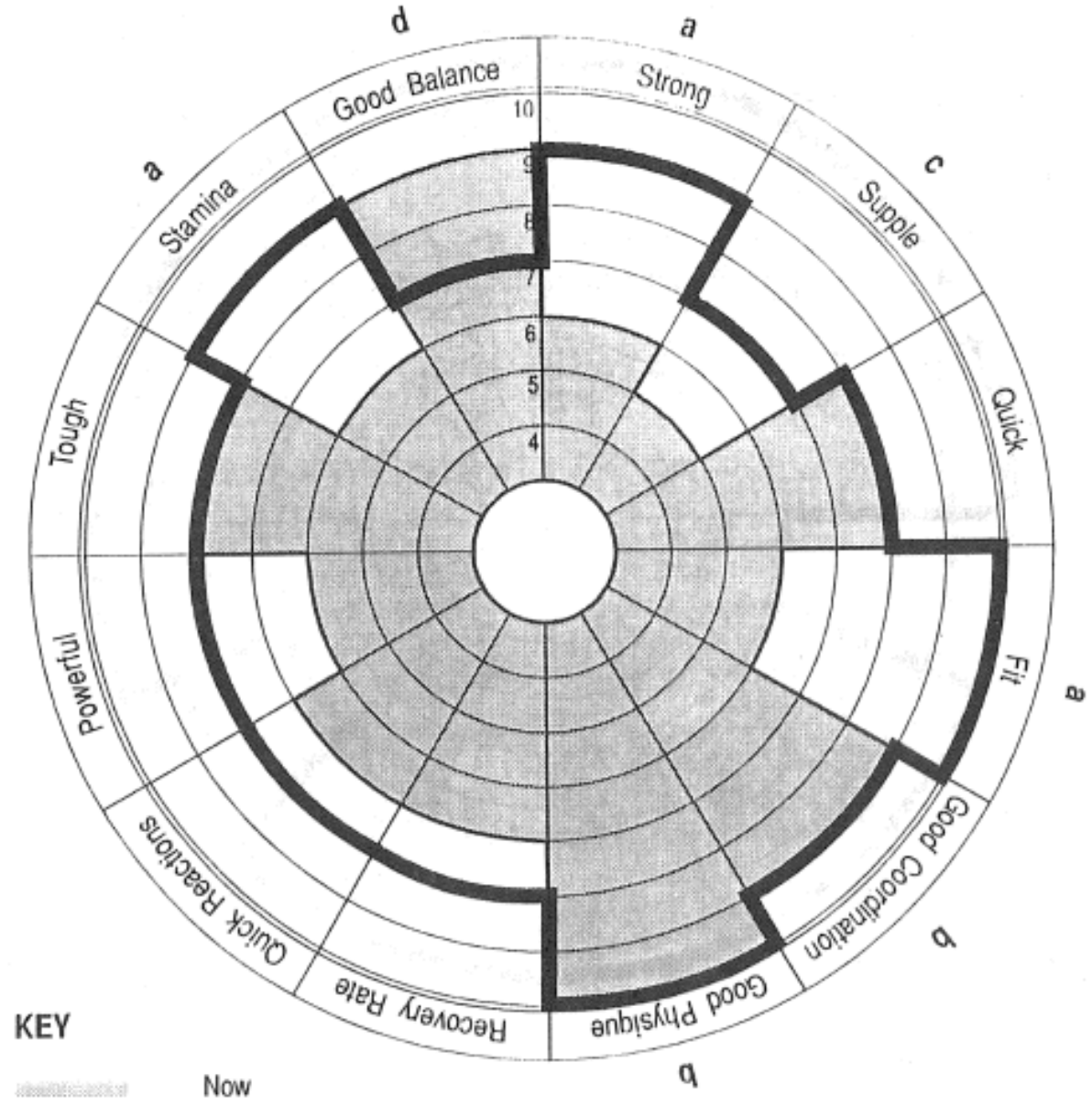


Appendix B: Figure 2 - Example of Performance Profile with Current Ratings Outlined



Example 2: Profile of footballer (attacker)

Appendix C: Figure 3 - Example of Performance Profile with Realistic-Ideal Ratings Outlined



Appendix D: Figure 4 – Attribute List Template

Imagine producing a perfect performance or reflect on the performances of a top performer in your sport. Write down the attributes that make up these top performances under the appropriate heading. Consider physical, technical, attitudinal and psychological attributes. Try to generate as many attributes as you can:

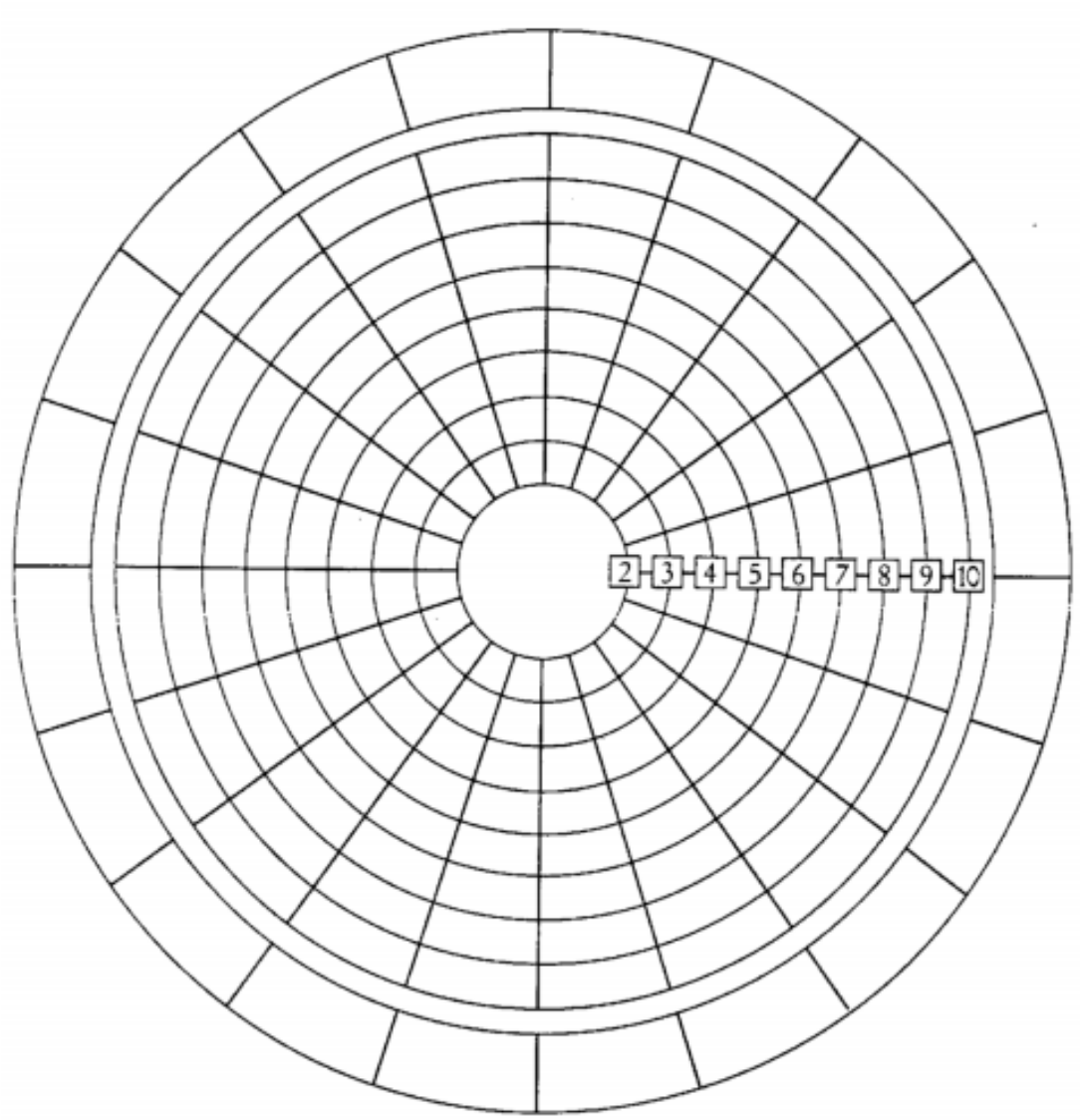
Physical (eg strength, endurance, flexibility)	**Attitudinal** (personality traits, e.g. mental toughness)	**Psychological** (mental skills, e.g. anxiety control, concentration)	**Technical** e.g. tempo, tactics, sport specific attribute)

A list of attributes for use to prompt

Physical	**Attitudinal**	**Psychological**	**Technical**
Strength	Competitiveness	Confidence	
Flexibility	Will to win	Focus	
Power	Discipline	Set goals	
Speed	Determination	Emotional control	
Balance	Single mindedness	Concentration	
Endurance	Dedication	Regain focus	
		Relaxed	
		Use visualisation	
		Cope with pressure	
		Sharp	

Now select the 20 attributes you feel are the most important. Mark these by underlining or circling them.

Appendix E: Figure 5 – Blank Performance Profile



Appendix F: Figure 6 – Psychological Attribute Definition Table

This provides a picture of how you as athlete perceive the ingredients or constituents of top performance. However, it is important to have a clear definition of what you mean by each attribute. This can then be communicated to others.

3. To practices defining your attributes, list all your psychological attributes below, and give a brief personal definition of each:

Performers Name:

Psychological Attribute	Definition

Appendix G: Figure 7 - Constructing a Discrepancy Score from the Performance Profile

ATTRIBUTE	I	RSA	CSA	(RSA-CSA)	D (RSA-CSA) x I
Quick Thinking	10	10	9	1	10
Concentration	10	10	7	3	30
Flexible	9	8	6	2	18
Motivation	10	10	10	0	0
Handling Media	6	9	6	3	18

Key: I = Importance; RSA = Realistic-Ideal Self-Assessment; CSA = Subject Self-Assessment; D = Discrepancy

Appendix H: Figure 8 - Traditional Group Performance Profiling Instructions

1. Imagine producing a perfect performance or reflect on the performances of a top performer in your sport. Write down the attributes that make up these top performances under the appropriate heading. Consider physical, technical, attitudinal and psychological attributes. Try to generate as many attributes as you can:

Physical (eg strength, endurance, flexibility)	**Attitudinal** (personality traits, e.g. mental toughness)	**Psychological** (mental skills, e.g. anxiety control, concentration)	**Technical** e.g. tempo, tactics, sport specific attribute)

A list of attributes for use to prompt

Physical	**Attitudinal**	**Psychological**	**Technical**
Strength	Competitiveness	Confidence	
Flexibility	Will to win	Focus	
Power	Discipline	Set goals	
Speed	Determination	Emotional control	
Balance	Single mindedness	Concentration	
Endurance	Dedication	Regain focus	
		Relaxed	
		Use visualisation	
		Cope with pressure	
		Sharp	

Figure 8. Continued

2. Now select up to 20 psychological attributes you feel are the most important. Mark these by underlining or circling them. It is important to think of your strengths as well as your weaknesses.

Figure 8. Continued

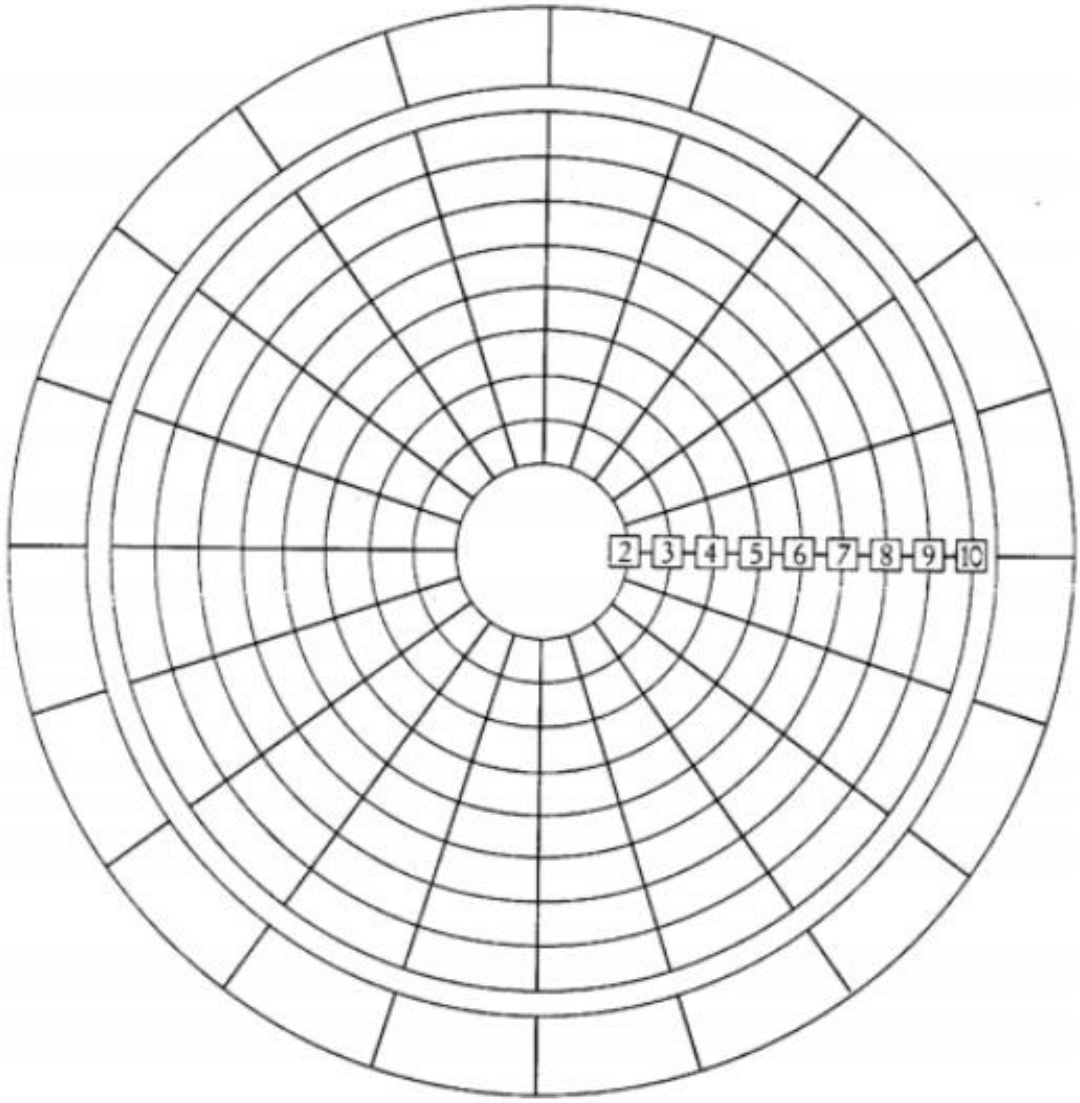
This provides a picture of how you as athlete perceive the ingredients or constituents of top performance. However, it is important to have a clear definition of what you mean by each attribute. This can then be communicated to others.

3. To practices defining your attributes, list all your psychological attributes below, and give a brief personal definition of each:

Psychological Attribute	Definition

Figure 8. Continued

4. Fill in the outer boxes with your chosen attributes.



5. Rate your **current** perception of your ability in each attribute from 1 (‘couldn’t be any worse’) to 10 (‘couldn’t be any better’) by shading each box until that point. In quantifying your rating out of 10, think of an individual that you think exhibits an ideal level of that attribute as a ‘10’, and compare yourself against that. There is no wrong answer, as this is your profile. It is important to note that you may have some stronger areas, as well as weaker areas.

6. Give yourself a **realistic-ideal** rating in each attribute from 1 (‘couldn’t be any worse’) to 10 (‘couldn’t be any better’) by drawing a thick ‘target line’ on the edge of that box for

where you would like to improve your current rating to if you were to revisit this profile 2 months from now.

Figure 8. Continued

7. Identify in your visual profile wherein lies a discrepancy between your *realistic-ideal* and current rating. Select your 4-5 attributes where the biggest discrepancies lie and list them below.

a.

b.

c.

d.

5.

These are the areas for which you have identified as areas that you perceive you need to work on.

Therefore, these four target areas would make up the formation of a psychological skills training program that you may wish to work on by yourself, with a sport psychology consultant, or your coach.

Appendix I: Figure 9 -Adapted Group Performance Profiling Instructions

1. Imagine producing a perfect performance or reflect on the performances of a top performer in your sport. Write down the attributes that make up these top performances under the appropriate heading. Consider physical, technical, attitudinal and psychological attributes. Try to generate as many attributes as you can:

Physical (eg strength, endurance, flexibility)	**Attitudinal** (personality traits, e.g. mental toughness)	**Psychological** (mental skills, e.g. anxiety control, concentration)	**Technical** e.g. tempo, tactics, sport specific attribute)

A list of attributes for use to prompt

Physical	**Attitudinal**	**Psychological**	**Technical**
Strength	Competitiveness	Confidence	
Flexibility	Will to win	Focus	
Power	Discipline	Set goals	
Speed	Determination	Emotional control	
Balance	Single mindedness	Concentration	
Endurance	Dedication	Regain focus	
		Relaxed	
		Use visualisation	
		Cope with pressure	
		Sharp	

Figure 9. Continued

2. Now select up to 20 psychological attributes you feel are the most important. Mark these by underlining or circling them. It is important to think of your strengths as well as your weaknesses.

Figure 9. Continued

This provides a picture of how you as athlete perceive the ingredients or constituents of top performance. However, it is important to have a clear definition of what you mean by each attribute. This can then be communicated to others.

3. To practice defining your attributes, list all your psychological attributes below, and give a brief personal definition of each:

Psychological Attribute	Definition

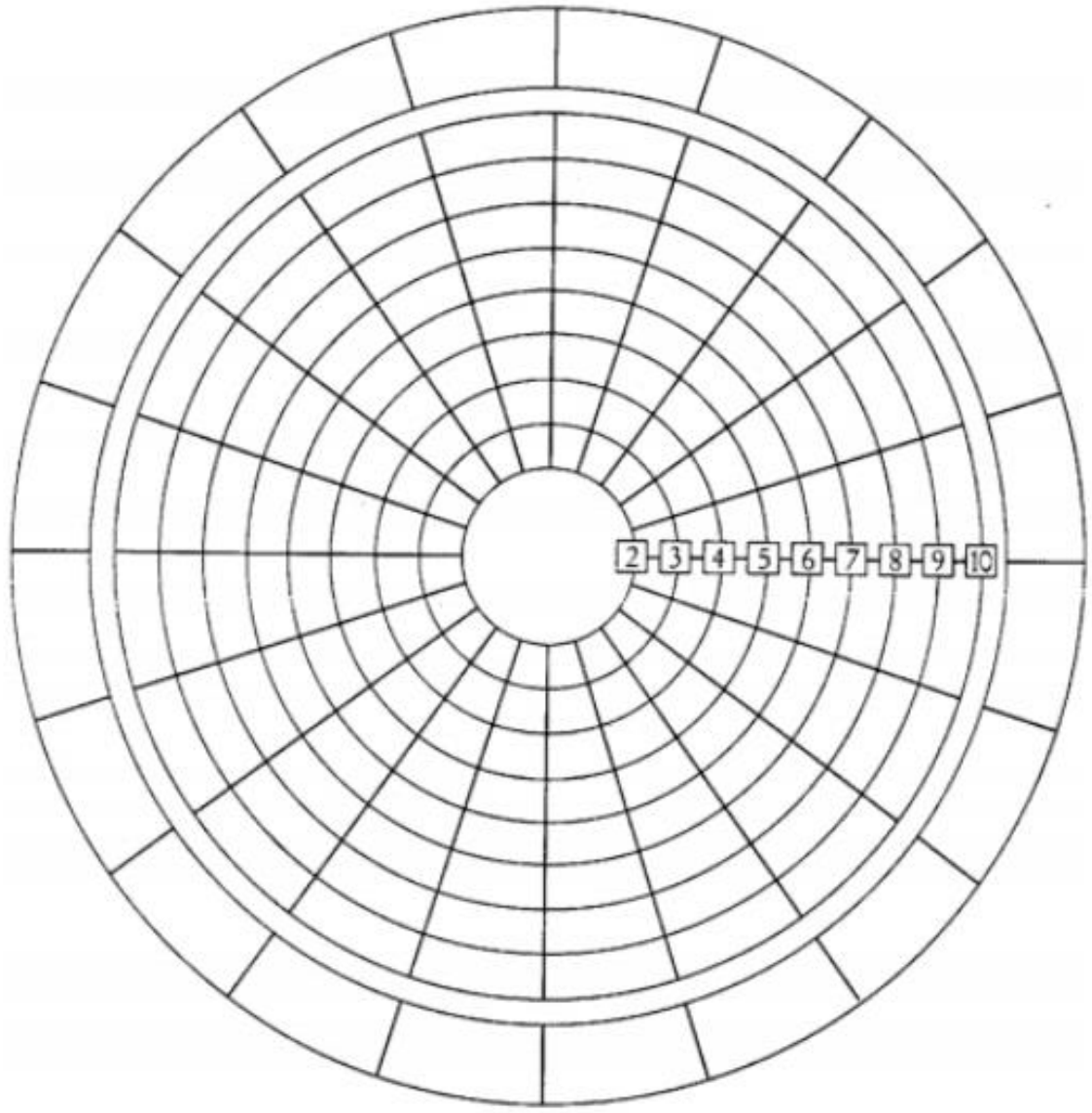
Figure 9. Continued

4. Categorize each profile attribute that you have chosen as your most important on a bi-polar continuum scale from ‘detrimental’ to ‘ideal. Below are some examples.

DETRIMENTAL	**IDEAL**
Self-Doubt	Self-Belief
Scared	Confident

Figure 9. Continued

5**.** Fill in the outer boxes of your performance profile sheet with your chosen attributes.



5. Rate your **current** perception of your ability along each of your bi-polar attribute scales from 1 (detrimental end of the scale) to 10 (ideal end of the scale) by shading each box until that point. In quantifying your rating out of 10, think of individuals that you think exhibit an ideal level of that attribute as a '10', and compare yourself against that. There is no wrong answer. This is <u>your</u> profile. It is important to note that you may have some stronger areas, as well as weaker ones.

Figure 9. Continued

6. Give yourself a **realistic-ideal** rating in each attribute from 1 ('couldn't be any worse') to 10 ('couldn't be any better') by drawing a thick 'target line' on the edge of that box for where you would like to improve your current rating to if you were to revisit this profile 2 months from now.

7. Rate the importance of each attribute scale in its effect on being successful in your sport on an importance scale of 1 ('not important at all') to 10 ('of crucial importance'). When considering how to rate the importance of each attribute, come up with as many different contexts in which the profile attribute would be applicable (e.g., in preparation for competition, during training).

PROFILE ATTRIBUTE	**IMPORTANCE SCORE**	**PROFILE ATTRIBUTE**	**IMPORTANCE SCORE**

8. Fill out the below table to find discrepancies in your performance profile,. Use the table below as an example.

ATTRIBUTE	I	RSA	CSA	(RSA-CSA)	D = (RSA-CSA) x I
Focus	10	10	9	1	10
Concentration	10	10	7	3	30
Adaptable	9	10	6	4	36
Motivation	10	10	10	0	0
Self-Belief	6	10	6	4	24

Key: I = Importance; RSA = Realistic-Ideal Self-Assessment; CSA = Current Self-Assessment; D = Discrepancy

ATTRIBUTE	I	ISA	CSA	(ISA-CSA)	D (ISA-CSA) x I

Figure 9. Continued

9. Identify your largest 4-5 discrepancy scores and list them below.

a.

b.

c.

d.

e.

These are the areas for which you have identified as areas that you perceive you need to work on.

Therefore, these four target areas would make up the formation of a psychological skills training program that you may wish to work on by yourself, with a sport psychology consultant, or your coach.

Appendix J: Figure 10 - Athlete Performance Profile Questionnaire (APPQ)

Directions: This questionnaire is designed to evaluate the impact of using the performance profile from an athlete perspective. All the questions relate to aspects of the process of completing your own performance profile.

The questionnaire does not require your name and therefore **all responses** are completely **confidential**. **There are no right or wrong answers**. Please answer every question **as honestly as possible** relating to the **session you have just been involved in**. If you do not understand the meaning of any of the questions please ask the researcher for an explanation.

Background Information

GENDER: **Male / Female** **AGE:_____** SPORT_____

POSITION:

HAVE YOU PARTICIPATED IN A PERFORMANCE PROFILE SESSION BEFORE?

YES / NO

If yes, where, when and by whom was the session taken?

_____

_____

___

(i) Generally, how **useful** did you find the performance profile to be?

Not At All		**Moderately**		**Very Much**	**Don't Know**
1	2	**3**	4	**5**	**6**

(ii) How much do you believe you would benefit from participating in a similar session in the future?

Not At All		**Moderately**		**Very Much**	**Don't Know**
1	2	**3**	4	**5**	**6**

(iii) Please indicate, on the scale provided, the **level of impact** the **performance profiling session** had on the following:

	Not At All		**Moderately**		**Very Much**	**Don't Know**
Helped to highlight my strengths	**1**	**2**	**3**	**4**	**5**	**6**
Helped to highlight my weaknesses	**1**	**2**	**3**	**4**	**5**	**6**

Helped to highlight the demands of my position	**1**	**2**	**3**	**4**	**5**	**6**
It helped to get something down on paper	**1**	**2**	**3**	**4**	**5**	**6**
It helped highlight strategies to improve	**1**	**2**	**3**	**4**	**5**	**6**
It helped to enhance my confidence in my ability	**1**	**2**	**3**	**4**	**5**	**6**

Figure 10. Continued

	Not At All		**Moderately**		**Very Much**	**Don't Know**
It was a catalyst to help improve myself	**1**	**2**	**3**	**4**	**5**	**6**
It made me think about setting goals	**1**	**2**	**3**	**4**	**5**	**6**
Helped to highlight the demands of other positions	**1**	**2**	**3**	**4**	**5**	**6**

(iv) Please indicate on the scale provided the extent you would **benefit** from **using** the **performance profile** in the future:

	Not At All		**Moderately**		**Very Much**	**Don't Know**
To build my confidence	**1**	**2**	**3**	**4**	**5**	**6**
To help me decide what I need to work on	**1**	**2**	**3**	**4**	**5**	**6**
To monitor my progress	**1**	**2**	**3**	**4**	**5**	**6**
To aid communication with my coach	**1**	**2**	**3**	**4**	**5**	**6**
To set goals for myself	**1**	**2**	**3**	**4**	**5**	**6**
To take more control of my development	**1**	**2**	**3**	**4**	**5**	**6**
To motivate me to train	**1**	**2**	**3**	**4**	**5**	**6**
To motivate me to improve	**1**	**2**	**3**	**4**	**5**	**6**
To structure my training schedule	**1**	**2**	**3**	**4**	**5**	**6**
To help in the evaluation of my performance	**1**	**2**	**3**	**4**	**5**	**6**
To help the coach individualize my training	**1**	**2**	**3**	**4**	**5**	**6**
To improve the coach's understanding of me	**1**	**2**	**3**	**4**	**5**	**6**
To provide after game analysis	**1**	**2**	**3**	**4**	**5**	**6**
To record my improvements	**1**	**2**	**3**	**4**	**5**	**6**
To take more responsibility for my development	**1**	**2**	**3**	**4**	**5**	**6**

Appendix K: Figure 11 – Higher Order Themes of Athlete Performance Profile Questionnaire (APPQ)

EFA of athlete perceived impacts of performance profiling

	Factor					
Impact item	1	2	3	4	5	6
Motivation						
To take more control of my development	**.68**					
To take more responsibility for my development	**.63**					
To motivate me to train	**.62**					
To motivate me to improve	**.60**					
To set goals for myself	**.59**					
Self-Awareness						
Helped to highlight my weaknesses				**.68**		
To help me decide what I need to work on				**.50**		
Helped to highlight my strengths				**.49**		

Appendix L: Figure 12 - Sport Injury Rehabilitation Adherence Scale (Modified for Sport Psychology)

Directions: This questionnaire is designed to evaluate the impact of using the performance profile from an athlete perspective. All the questions relate to aspects of the process of completing your own performance profile and the four areas targeted to become the basis of a possible sport psychology training program in the future.

The questionnaire does not require your name and therefore **all responses** are completely **confidential**. **There are no right or wrong answers**. Please answer every question **as honestly as possible** relating to the **session you have just been involved in**. If you do not understand the meaning of any of the questions please ask the researcher for an explanation.

(v) Circle the number that best indicates the **intensity** with which you would complete exercises in a **sport psychology training program** in the future

Minimum Effort				**Maximum Effort**	**Don't Know**
1	2	**3**	4	**5**	**6**

(vi) How frequently will you **follow instructions and advice** of a s**port psychology training program** in the future:

Never				**Always**	**Don't Know**
1	2	**3**	4	**5**	**6**

(vii) How receptive would you be to changes in your existing training program to accommodate a **sport psychology training program** in the future:

Very Unreceptive				**Very Receptive**	**Don't Know**
1	2	**3**	4	**5**	**6**